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PAPER TRADE JOURNAL

VOL. 123, NO. 8 AUGUST 22, 1946

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OPA Clears Way for Retail Price Increases
Wentworth Brown Made a Vice-President
Demand Remains High in Middle West
Congoleum Expands at Cedarhurst

Great Northern Elects McKay as President
Consolidated Promotes Dr. W. J. Foote
Ceiling Up on Book and Writing
July Newsprint Hits New High

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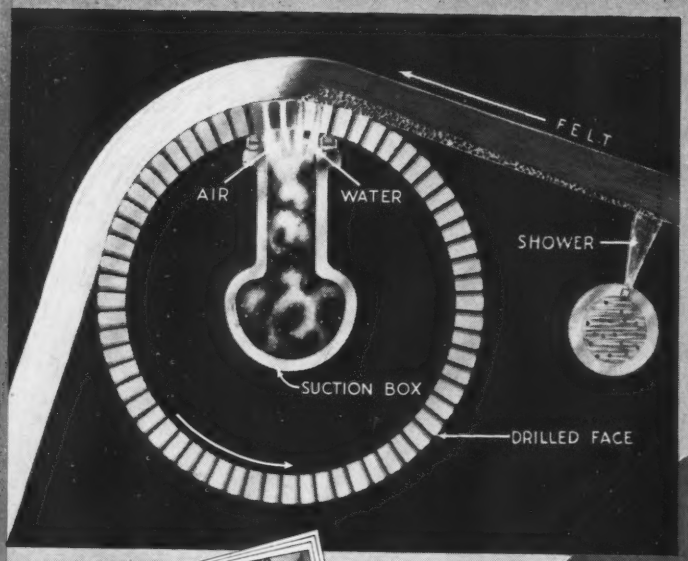

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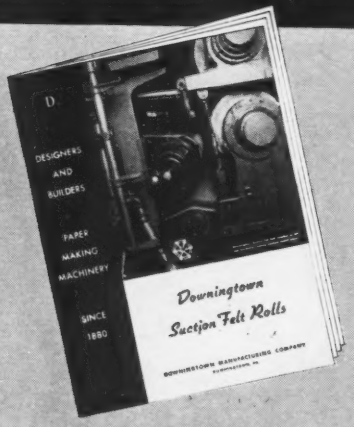

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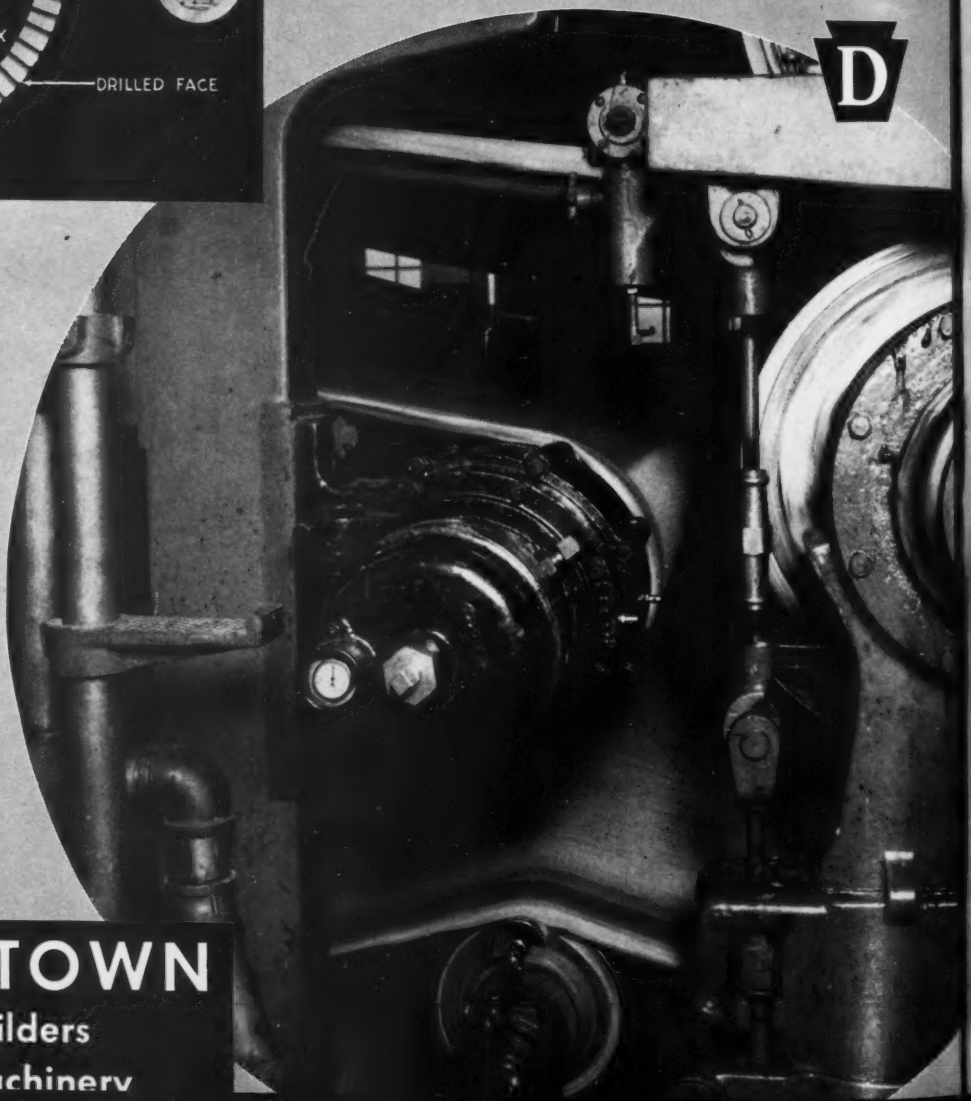

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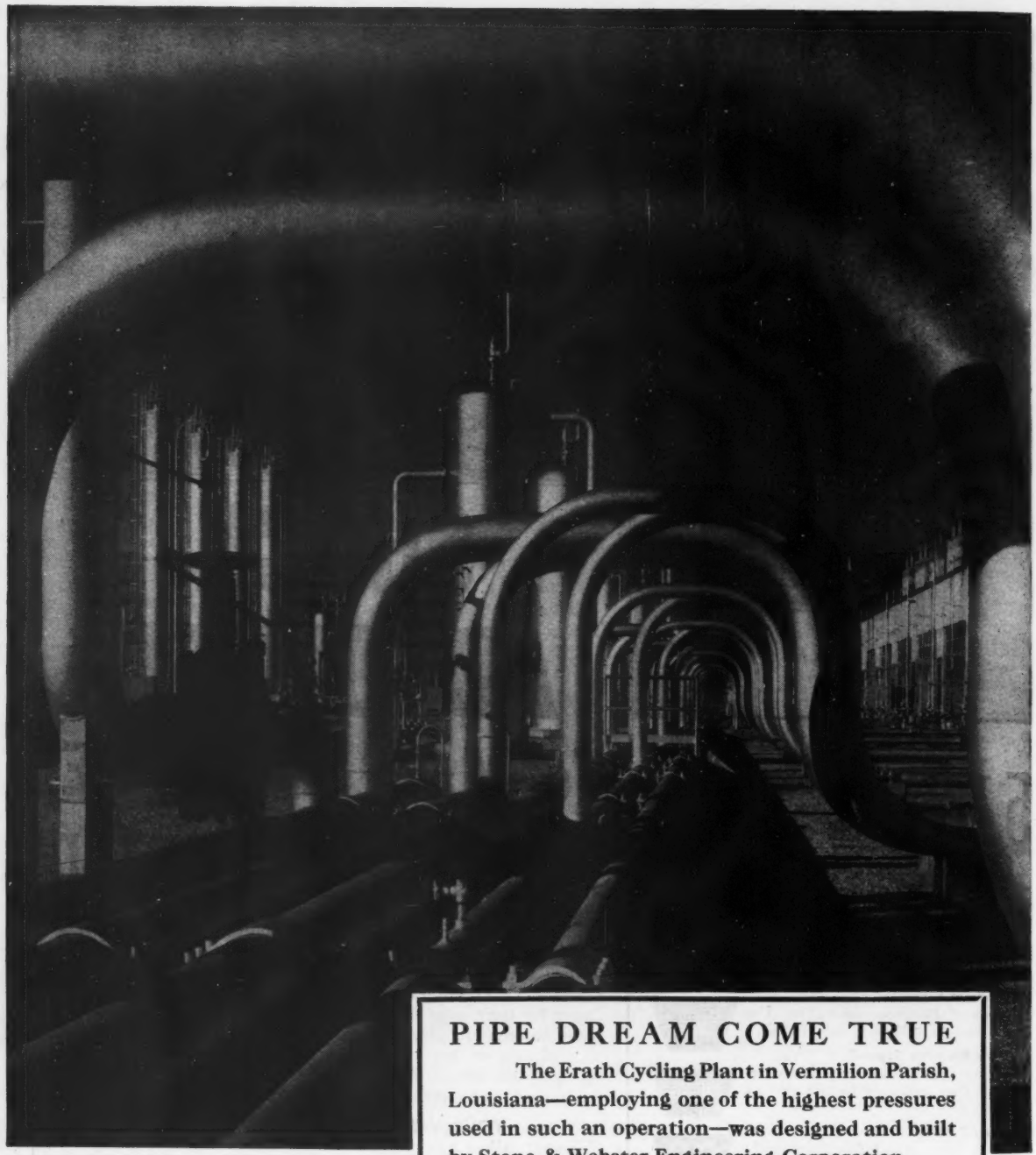

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PAPER TRADE JOURNAL

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CONTENTS

AUGUST 22, 1946

OPA Sets Up a Formula for Retail Price Increases ...	9
Great Northern Picks McKay to Succeed Whitcomb	9
July Newsprint Hits New High	10
Southern Paperboard Mill Will Cost 11 Million	10
OPA Opens Billing on Industrial Casein	10
Czech Mills Produce at 80 Per Cent Rate	12
Wisconsin Will Use Planting Machines	21
Schulman Controls Louis DeJonge & Co.	24
Obituary	28
Australia Suffers Shortages	32
Finland Promises to Ship More Pulp	32

Financial News	22	Production Report ...	37
Market Review	52	Miscellaneous Markets	54
Imports	51	Market Quotations ..	54
Editorial	36	Classified Advertising .	58

Technical Section ***("TAPPI")***

Patent Reform andt he Technical Man	39
TAPPI Notes	43
Superintendents and TAPPI to Meet	43
Paper Mill Operating Efficiencies	44
Sulphite Pulping and Pulps	46

PAPER TRADE JOURNAL IS INDEXED IN INDUSTRIAL ARTS INDEX

INDEX TO ADVERTISERS ON PAGE 72

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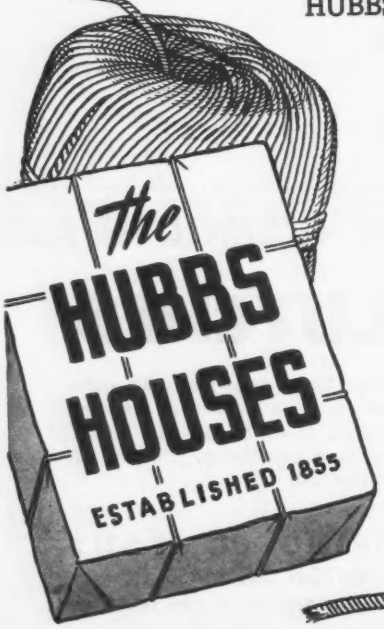

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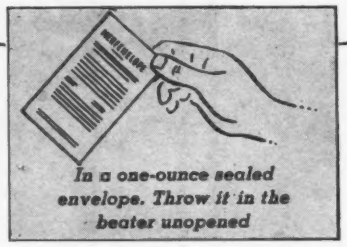

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PAPER TRADE JOURNAL

Vol. 123, No. 8 August 22, 1946

Title Reg. U. S. Pat. Off.

Demand Stays High In Middle West

CHICAGO — The paper market is reportedly "tighter" than it has been for many days. The various increases granted certain lines of paper, all readied prior to the enactment of the new OPA bill, have been recognized as merited by the mills but there remains a considerable amount of confusion as to the passing on of such increases to the ultimate paper buyer.

As far as the over-all supply of paper is concerned, the trade here reports that shortages persist, and that no real betterment is anywhere in sight as the Fall season approaches. Pulp conditions, say local students of the market, remain extremely tight with foreign contributions to the overall world market not as yet materializing. Shortages in chemicals and other integral parts of paper making, persist.

Marketwise, all grades of paper are at the top ceiling spots and it is doubtful that any immediate increase in supply would help the situation at all because of the over-all demand from the trade in general. There still persists, however, a genuine belief that the paper trade would be at a more even keel if production were allowed to go ahead unchecked by controls. Perhaps the most characteristic report of the local markets—an appellation used before — is simply to select the word "confusing" and let it stand!

The National Maritime Union lake strike, which has been expected to have some effect on that part of the paper trade which depends upon the waterway for shipments, has, thus far, had little reported effect on the already tight transportation situation in this area. The strike was said to be seemingly ineffective as conflicting reports from the union and the ship operators were being weighed. The oil industry reported that tankers were moving through the Great Lakes and an International Harvester boat likewise completed its unloading on the first day of the strike, August 15. The basis for the dispute which could conceivably have some very definite effect on shipments of newsprint and other paper items, is reported to be over union demands for a 40 hour week. If the strike continues in intensity it is expected in Chicago quarters that the government will take over.

OPA Sets Up a Formula For Retail Price Increases

WASHINGTON, D. C.—Retail ceiling prices and some additional wholesale ceiling prices of paper and paper products on which manufacturers' maximum prices have been increased since March 31, 1946, may be adjusted to maintain the percentage discounts and mark-ups in effect on that date, by ruling of the Office of Price Administration.

This action, which became effective August 16, 1946, was taken to comply with provisions of the Price Control Extension Act of 1946 which requires the agency "in establishing maximum prices applicable to wholesale or retail distributors" to allow the "average current cost of acquisition of any commodity, plus such average percentage discount or mark-up as was in effect on March 31, 1946."

On August 5, 1946, OPA allowed wholesale ceilings to be so adjusted on paper and paper products covered by specific commodity regulations. The present action covers all retailers of such products, as well as a few items on which wholesalers determine their ceilings for paper and paper products under the General Maximum Price Regulation.

Distributors are authorized to make the adjustment at once in their ceiling prices. OPA said it was not possible to give the amount of the increases, as they would vary with each seller, but in general they would be small.

Principal consumer paper items affected by today's action are paper napkins, wax paper in cutter-box rolls, ream and tablet stationery. Most box stationery, envelopes and paper plates have been suspended from OPA controls. Toilet tissues and paper towels are not affected by the action.

Great Northern Picks McKey To Succeed Whitcomb

SPRINGFIELD, Mass.—William O. McKay, of Beverly, has been elected president of the Great Northern Paper Company to succeed William Whitcomb, who was shot to death in his downtown Boston office about six weeks ago. Boston officials of the company announced the election.

An employe of the company since 1908, McKay has been prominently identified with the installation of new manufacturing equipment in the Maine plants of the company and the development of its hydro-electric properties.

He was elected vice-president in charge of manufacturing in 1928, and a director in 1936.

Mr. McKay was also elected a member of the executive committee at this week's meeting.

Sheldon E. Wardwell, legal counsel for the company, was elected chairman of the executive committee. Mr. Wardwell has been a director of the Company since 1924, and a member of the executive committee since 1928.. Mr. McKay resides in Beverly, Mass., and Mr. Wardwell in Brookline, Mass.

Consolidated Promotes Dr. Foote at Stevens Point

STEVENS POINT, Wis.—Appointment was announced August 16 of Dr. W. J. Foote as manager of the Wisconsin River division here of Consolidated Water Power and Paper Company, to succeed the late Chester R. Morse. Dr. Foote, a native of Appleton, was graduated from Appleton High School in 1930, and from the Lawrence College chemistry course in 1934. Following graduation from the Institute of Paper Chemistry at Appleton in 1938, he joined the Consolidated at Wisconsin Rapids as chief chemist.

Recently Dr. Foote has received recognition as a special student of the physical measurements of optical characteristics of pulps and papers, having presented four papers on this subject at national paper-group conventions.

At Consolidated, Dr. Foote has been in charge of technical control of mill operations and has been active in process developments. He will reside at Stevens Point.

Wentworth Brown Advanced To be Vice-President

BERLIN, N. H. — The Brown Company, paper products manufacturers, has promoted Wentworth Brown to vice-president to be in charge of manufacturing. He has been production manager since 1942. Mr. Brown, who has been with the company since 1929, prior to coming to Berlin, was manager of the La Tuque Mill of the Brown corporation.

July Newsprint Hits New High

Production in Canada during July 1946 amounted to 357,027 tons and shipments to 364,591 tons. Production in the United States was 62,742 tons and shipments were 60,249 tons. The output in Newfoundland was 31,330 tons and shipments were 26,425 tons making a total North American production of 451,099 tons and shipments of 451,265 tons. Total production in July 1945 was 354,552 tons and shipments were 372,791 tons. North American production in July 1946 exceeded that of any July on record.

The Canadian mills produced 544,809 tons more in the first seven months of 1946 than in the first seven months of 1945, which was an increase of 30.0 percent. The output in the United States was 25,885 tons or 6.1 percent more than in the first seven months of 1945; in Newfoundland production was 20,723 tons or 10.9 percent more, making a total increase of 591,417 tons, or 24.3 percent more than in the first seven months of 1945, and also was higher than in any preceding similar period.

Stocks of newsprint paper at the end of July were 115,597 tons at Canadian mills, 8,909 tons at United States mills, and 74,784 tons at Newfoundland mills, making a combined total of 199,290 tons compared with 199,456 tons on June 30, 1946, and 145,637 tons at the end of July 1945.

Southern Paperboard Mill Will Cost 11 Million

SAVANNAH, Ga. — According to George E. Dyke, president of Robert Gair Company, Inc., and chairman of the board of the Southern Paperboard Corporation's kraft and paperboard mill at Port Wentworth, cost of equipment and construction of the latter has been estimated at $11,000,000. Original estimate on the cost of the Savannah mill was $9,000,000. Work will start next month, according to present plans.

Byron Weston Mill To Erect New Building

DALTON, Mass. — Hale Holden, Jr., president of Byron Weston Company, has made known plans for a new finishing machinery building which is estimated to cost $175,000. Ground was broken for the new structure last week.

The location is between the present Centennial and Defiance Mills and when completed the new building will connect these two mills. It is to be approximately 180 feet by 80 feet, two stories, of concrete, steel, brick and glass block construction, of modern design. This will give the company about 25,000 square feet of additional floor space, permitting better arrangement of calenders, trimmers and other equipment pertaining to the finishing department.

OPA Opens Billing On Industrial Casein

WASHINGTON, D. C.—Producers of inedible industrial casein were notified that they may sell their product at the present domestic ceiling of 33 cents a pound and bill purchasers for the additional amount as soon as the Office of Price Administration announces a new and higher ceiling, OPA said last week.

Effective August 15, this open billing method of shipping is being permitted to encourage production of casein, as well as its movement into the market.

Because milk, from which industrial casein is extracted, has been decontrolled—at least until August 21—and has risen as much as 80 cents a hundred pounds, casein producers are being squeezed against their ceiling.

Withholding has taken place in anticipation of higher ceilings when it is decided whether or not to return controls on dairy products on August 21. Casein is the only dairy product which remains under price control.

As a result, producers say that increased production in this country is not profitable at the present ceiling.

Congoleum Expands Cedarhurst Plant

CEDARHURST, Md. — A contract has been awarded for construction of a major addition to the Congoleum-Nairn, Inc., felt mill, which, when completed, will double the present capacity of the plant.

Successful bidders for the Maryland plant expansion were Gahagan Construction Corporation of New York City and Byrne Organization, Washington, D. C., jointly as general contractors. Design and engineering are by Jackson and Moreland, Boston. Large and intricate felt machines of the latest design are under construction by Pusey and Jones Corporation, Wilmington, Del. The plant is scheduled for completion in 1947.

Glerum Moves to Chicago

CHICAGO—William Glerum, long associated with the paper trade, has recently been appointed manager of the Chicago division of the Sabin Robbins Paper Company. Mr. Robbins was formerly sales manager of the Butler Paper Company of Detroit and head of the Minneapolis division of Sabin Robbins.

Union Bag Sets Up Packaging Staff

NEW YORK — A new packaging machinery department to help solve customers' packaging problems, including designing new equipment in cases where such machinery is non-existent, has been set up by Union Bag and Paper Corporation. Leonard J. Doyle, vice president in charge of sales, has named R. E. Read as manager of the new development. Assisting him are W. H. Mellick, Reid Mahaffy and Charles Bauer. The department, Mr. Doyle said, will be responsible for engineering studies and recommendations involving new types of packaging equipment not available in the equipment market.

Mr. Read, outlining the aims of his department, explained:

"We are trying to do a scientific job for our customers in devising more economical and efficient packaging. The whole purpose of packaging is to get the product through to the customer just as it was made, without loss of any vital quality, such as aroma, vitamins, weight, moisture content, or freshness; and without shrinkage, deterioration or contamination.

"The department is an added service to customers and potential customers, which we expect will contribute to enlarging the field for Union Bag and Paper products."

Mr. Read has been with Union Bag and Paper for the past six years in a general administrative capacity, and for 17 years was with International Paper Company. He attended Bucknell and Columbia Universities, and in World War I was a member of the Lafayette Flying Corps, and commander of the U. S. Naval Air Station at Zebrugge.

Mr. Read's assistants, Mr. Mellick, Mr. Mahaffy and Mr. Bauer, are all ex-service men, serving as officers in Naval Aviation, Naval Ordnance and the Army Air Force respectively.

OPA Lifts Ceiling On Book and Writing Grades

WASHINGTON, D. C.—Manufacturers' ceiling prices for the lower priced book and writing papers have been increased $7 to $24 a ton to take care of higher costs for labor and raw materials by the Office of Price Administration. This action will encourage the production of the lower priced grades as no increases were given the top grades.

This increase, effective August 16, will mean an added return of $20,000,000 a year to manufacturers, half of which will come from book paper sales, the other half from writing paper, it is estimated by OPA.

Gilbert Picnic Crowds Thousand Mark

MENASHA, Wis.—Nine hundred and forty-one persons attended the twelfth annual picnic Sunday, August 11, of the Gilbert Paper Company for employes and their families. The picnic was held at Smith park, beginning at 1 o'clock in the afternoon. A dance featured the evening's program. A girls' team was defeated by an older men's team from the mill in a ball game, 18 to 9. Also on the program were card and horseshoe tournaments, and various other games and contests.

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Year 'Round for Modern
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Czech Mills Produce At 80 Per Cent Rate

WASHINGTON, D.C.—Czechoslovakia's pulp and paper industry is currently producing about 70 or 80 percent of its prewar output, for very little damage was suffered during the war or during liberation, according to a report to the Department of Commerce. The main difficulties have been short coal supplies and lack of transport facilities, but improvement in production figures is expected. In 1937, 250,000 tons of pulp were produced, of which 116,000 tons were exported. At the present production rate, Czechoslovakia expects to have up to 30,000 tons of paper and from 50,000 to 60,000 tons of pulp available for export during 1946.

Prices of Czechoslovakian pulp and paper are slightly higher than the Scandinavian products due to transportation costs from the frontier to European harbors. Normally the price difference causes the products to be placed chiefly in Central Europe, but both pulp and paper from Czechoslovakia are now finding their way to European markets.

The largest paper producers of Czechoslovakia are included in the nationalized sector of the industry where pulp and paper production is now concentrated. These firms are already known in other countries through their exports of newsprint, writing and packing paper, and the special lines associated with the various companies. Several nationalized companies are actively producing chemical wood pulp, both sulphite-bleached and unbleached pulp, sulphite viscose, and certain special pulps of lower specific gravity such as aspen and birch—all of which was formerly exported.

Car Shortage Now Looms in New England

SPRINGFIELD, Mass. — Pointing out that New England railroad is already threatened with prosecution for alleged failure to send empty freight cars outside New England, even while local industries were seeking to secure cars for loading, William H. Day, general chairman of the New England Shippers Advisory Board, today warned that this section of the country is facing the "worst shortage of box cars ever experienced," and predicted it would be harmful to its major industries, including paper manufacturers.

In a letter mailed to every member of the board in the six New England states, Day asserted that curtailments of shipping, and even some complete shutdowns of industry which have been experienced in other sections of the country, "are now facing all New England, unless shippers and receivers of carload freight will keep in mind that freight cars should be used for the sole purpose of moving freight traffic from where it is to where it is wanted."

United Wallpaper Moves Its Offices Together

CHICAGO—United Wallpaper, Incorporated, has taken a ten-year lease on two entire floors and part of another in the tower of the Chicago Merchandise Mart. United will take over the entire twenty-third and twenty-fourth floors and 2,000 square feet of space on the twenty-second floor. The company now occupies several thousand square feet on the sixth floor of the Merchandise Mart.

The twenty-fourth floor, which had housed offices of the Department of Indian Affairs, and the space on the twenty-second floor have been completely remodelled and are now occupied by United, President William H. Yates pointed out. The move to the twenty-third floor, he explained, will take place in October after the space has been vacated by the Marshall Field & Co. corporate offices.

Harry B. Taylor to be IPI Technical Adviser

After twenty-eight years in selling for IPI, Harry B. Taylor will devote his future activities for IPI as a consultant and technical adviser on printing. Mr. Taylor has had a long and distinguished period of service in the printing field and in the ink manufacturing industry. After serving his apprenticeship as a pressman at the Butterick Publishing Company, he added to his pressroom experience by working in such well-known plants as McCall, Charles Francis Press, Scribner, and Art Color Company. In 1918 he left the Giles Printing Company to join the selling force of the well-known ink company of Philip Ruxton, Inc.

After the merger of Philip Ruxton, Inc., with Ault & Wiborg and Queen City Printing Company in 1928, he continued as a salesman for IPI and had witnessed many important changes in the development of printing inks and printing processes.

A-C Booklet Tells About Turbo-Blowers

The A-B-C of Allis-Chalmers turbo-blowers, rotary compressors and vacuum pumps is explained fully in a 16-page booklet designed for student training which tells what these units are, how they operate and how to figure them. Cleverly illustrated, the booklet shows the simple construction of the Allis-Chalmers turbo-blower and tells why it is important that complete information be furnished to figure blowers correctly. Reproduced are curves depicting pressure volume, influence of water vapor on volume and correction curves for volumes to maintain constant air weight with changes in temperature and barometric pressure.

The booklet is available on request from Allis-Chalmers Manufacturing Company, Milwaukee 1, Wis.

Bag and Paper Men Play at Bethpage

NEW YORK—More than 250 members of the Metropolitan Bag and Paper Distributors Association crowded the fairways, putting greens, and the cool shaded porches at Bethpage State Park club house August 15 on the occasion of their twenty-ninth annual outing. The day began for the early birds shortly after breakfast, included a heartening lunch, an excellent shore dinner and a generous measure of sociability between the distributors and the manufacturers' representatives who were out in full force. At the close of the evening heartfelt tributes for the success of the affair were rendered to Louis Silfen, chairman of the outing committee, and his associates, Charles Beinbrink, Samuel Hayward, Walter W. Hinrichs, Michael Posner and Arthur H. Stein.

For this occasion the facilities of the Green Course, one of four 18-hole courses at Bethpage, had been reserved for the paper men and its facilities were none too much for the group who enjoyed their day at the fairways. When all scores were in, it was found that Harry Peters of the Cofax Corporation had won first prize for low gross, an alligator leather traveling case presented by Barshay, Frankel & Rothstein. Peter Smillie, of Union Bag and Paper Corporation, acquired the runner up position by matching cards with Peters, their gross scores having been the same. Edward G. Geehring, Arthur Christ, James Schlanger and Dan Schlanger shared honors in the Kickers Handicap.

An additional sixteen prizes were distributed among those present for their success at various other elements of the day's program. These winners included S. W. Franklin, Leo Silfen, Harold Goldsmith, William Genne, Bernard Friedlander, W. W. Everitt, Meyer Mandler, David Schlanger, Mr. Walsh, John J. Meehan, Aaron Kornweiss, J. J. Singer, Alfred Bleyer, Jr., Ernest Walther, Stuart Hinrichs and Sam Hoffman.

Andriola to Head De Laval Research

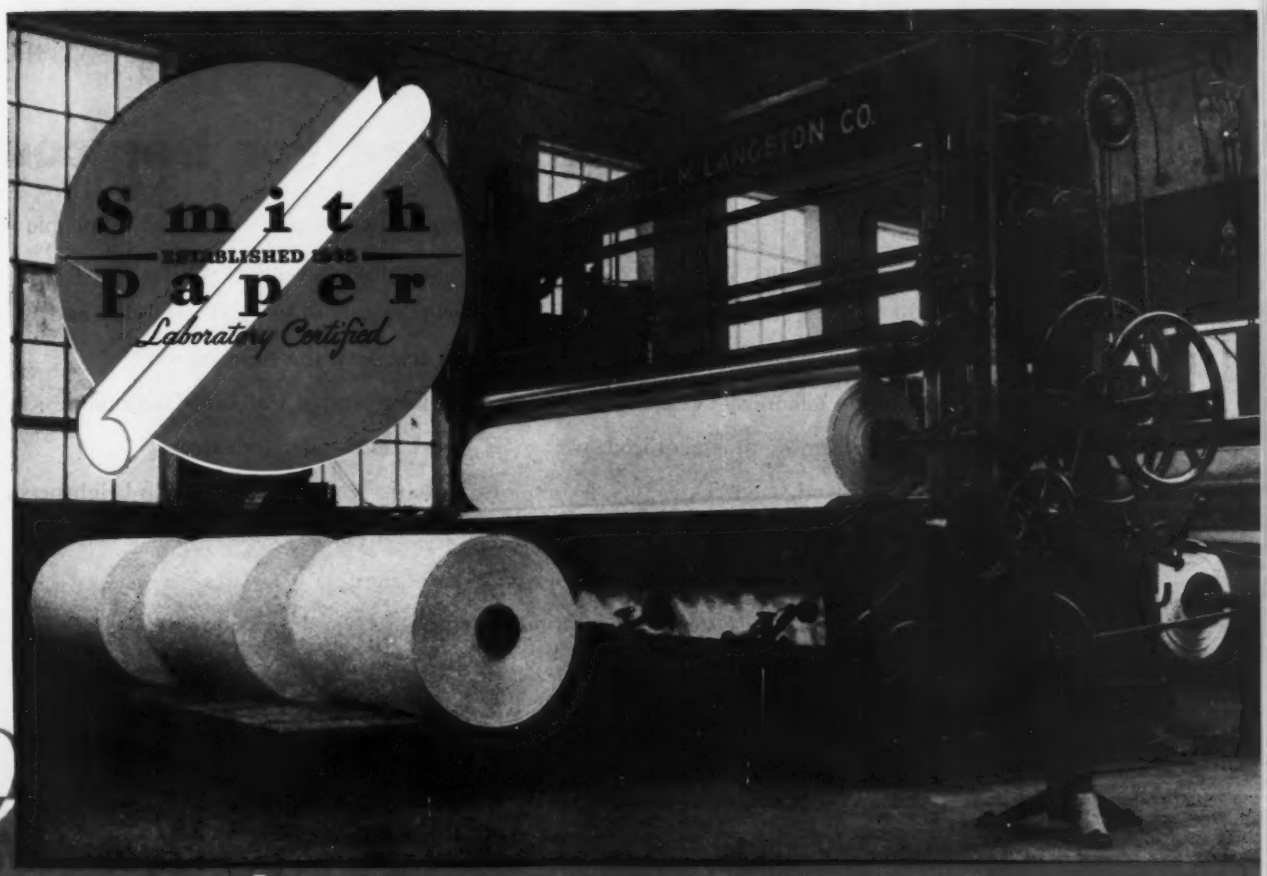
TRENTON, N. J.—To head its recently announced engineering research program, the De Laval Steam Turbine Company has appointed A. D. Andriola as Chief Research Engineer. Mr. Andriola, who since 1941 was assistant to the vice-president in charge of engineering of the Cramp Shipbuilding Company, Philadelphia, will work directly with C. R. Waller, vice-president in charge of De Laval engineering. A member of the A.S.M.E. and the Society of Naval Architects, Mr. Andriola was graduated from the Webb Institute of Naval Architecture and Marine Engineering and the University of Michigan and took special courses at Columbia University and the Massachusetts Institute of Technology.

Flint and steel have been associated in people's minds for a lot longer than any of us can remember. ***It has been a successful combination.***

So also is the team of Langston and Smith. Langston Slitters help Smith Paper, Inc., to turn out cigarette tissue of the very finest quality. There is no guesswork in that plant, thanks to Smith's 109 years of manufacturing experience, and the use of such dependable and efficient machinery as the Langston Slitter. For a true, clean cut, for rolls of uniform density from core to outside diameter, ***for unbeatable performance, high speed operation and low maintenance, specify Langston.***

SAMUEL M. LANGSTON COMPANY

CAMDEN, NEW JERSEY



Langston

admired for her coat

Coated paper, likewise, is in demand by people who appreciate quality. And the production of really fine coated paper at high speed calls for Precipitated *Calcium Carbonate* to be used with clay and other pigments. For several years it has been the business of Wyandotte Chemicals Corporation to produce Precipitated Calcium Carbonate. As a result of the "know how" thus acquired, we are in a position to offer industry a proved, *superior* product. Wyandotte Calcium Carbonate excels in brightness . . . in hiding power . . . in ink absorption . . . in freedom from grit and abrasiveness . . . in the uniformity which is essential to machine coating. To care for the increasing demand for Calcium Carbonate, Wyandotte is increasing its production capacity. So in the future—as now—you can look to Wyandotte for better paper coating.

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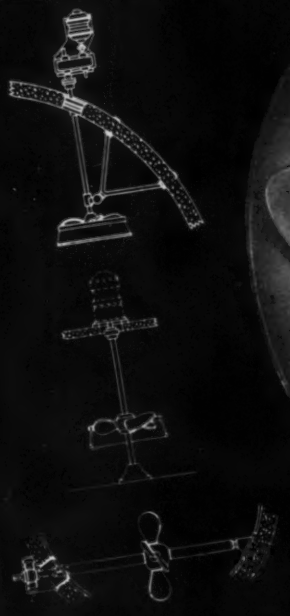

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The propellers can be field-set for any proportion of motor load needed for good agitation; any commercial drive ratios can be used within 10% of preferred propeller speed; propellers can be reset for radically changed operating conditions.

Eight sizes: 24" to 72". Materials: cast iron, bronze, stainless or rubber covered.

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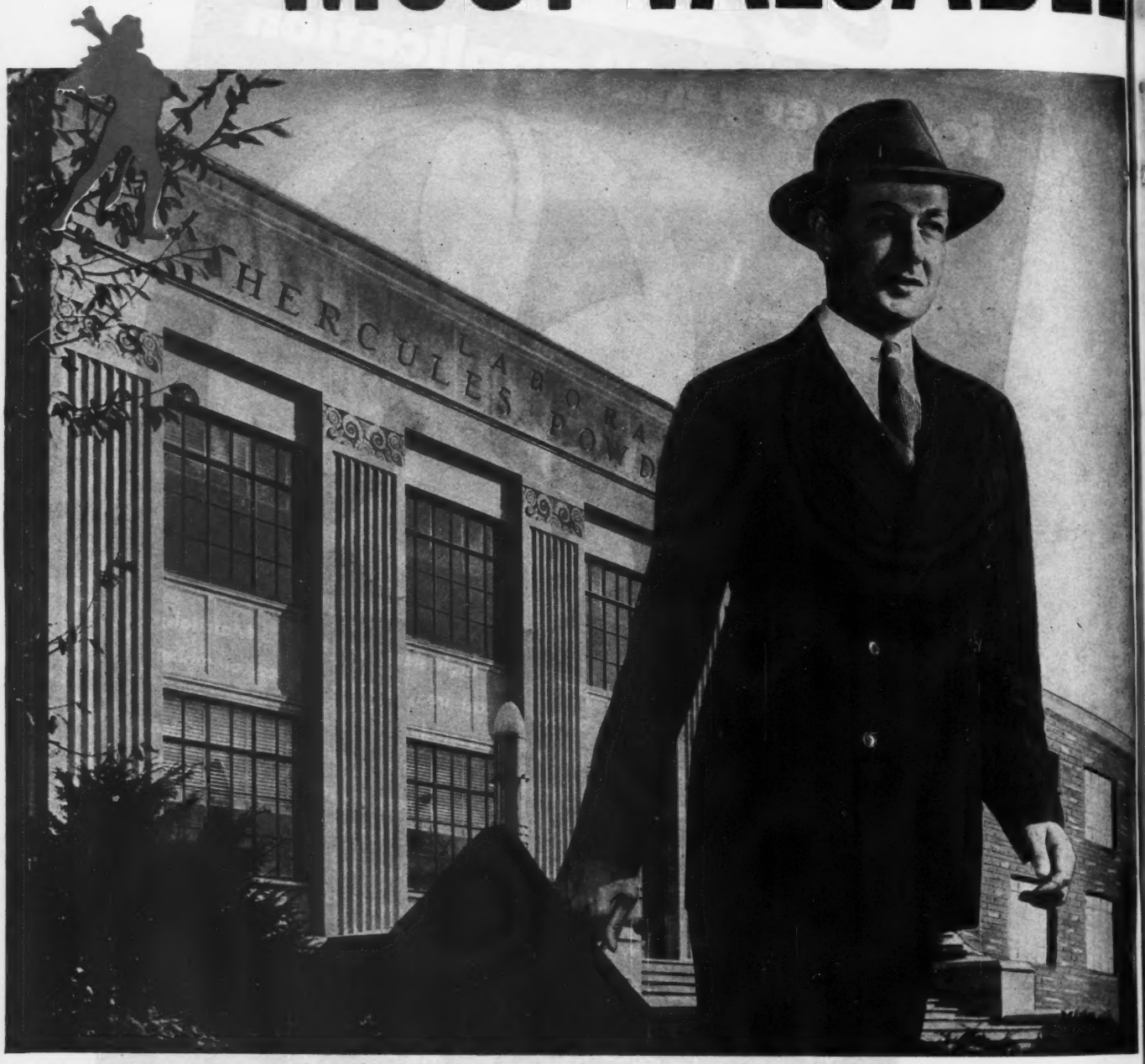

Background: Hercules Experiment Station, Wilmington, Del. *Foreground:* Fred Donovan, Technical Sales Representative, Naval Stores Department.

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Hercules chemical materials for the paper industry include:

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Wax additives for coating and laminating processes, modifiers for GRS and Neoprene latices for impregnating and laminating paper and board stocks.

Hercolyn*...
A liquid resin for transparentizing. Possessing excellent fiber-wetting properties, it is useful for the production of transparent and translucent papers.

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Hercules chemical cotton is a pure cellulose, in loose or sheet form. Cleanliness and brightness are outstanding.

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Hercules casein is used as the binder in clay-coatings, and as an adhesive in laminants and paper converting.

Paracols*...
Water-dispersible wax emulsions used to increase finish, flexibility, printability, and waterproofing of paper.

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These include sulphonated oils, foam killers, eveners, acids, alkalies, alum, and satin white.

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P-66

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We, at Flintkote, manufacture protection.

Flintkote Hydralt* Protective Coatings (which outlast any other form of bituminous coating exposed to weather) guard against moisture and corrosion.

Flintkote Insulation Coatings give needed resistance to acid vapor and abrasion. Flintkote Flooring Emulsions are the key to long-wearing, heavy-duty mastic floors. Flintkote Tire Cord Solutioning imparts additional wear and heat resistance to motor vehicle tires.

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Write us about your processing or protection problems. Let us put our extensive research, development and production facilities to work for you.

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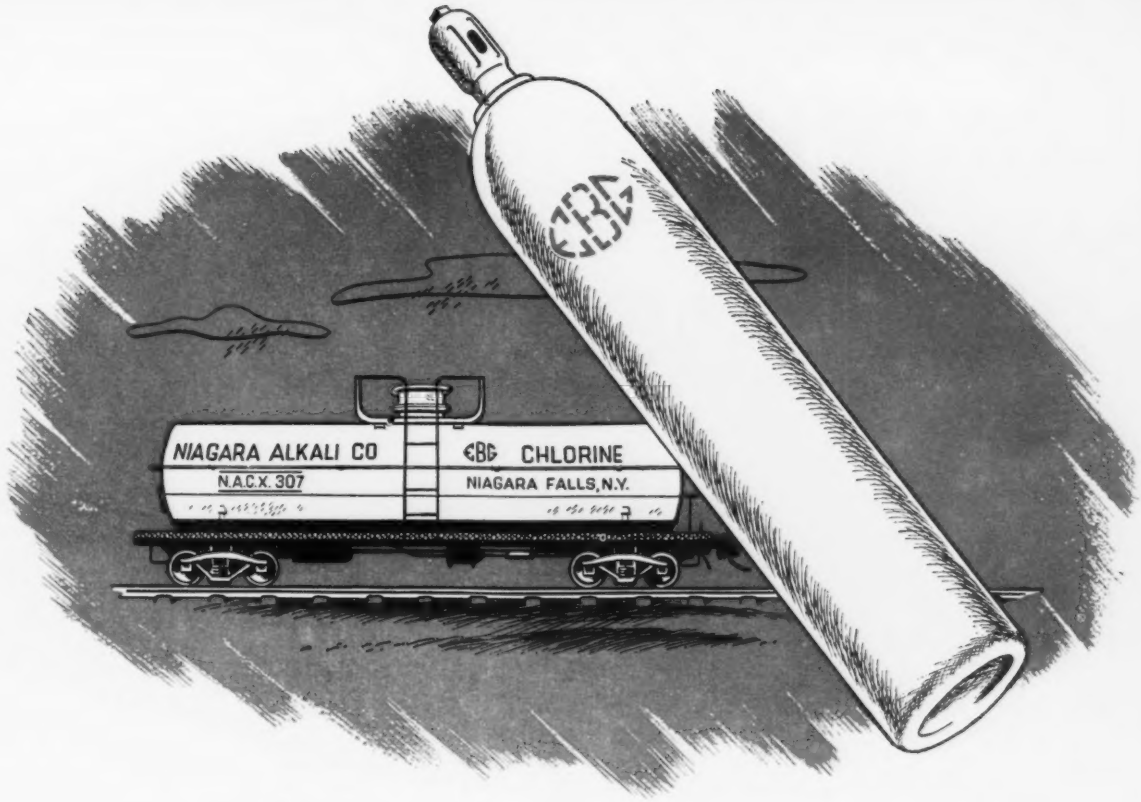

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LIQUID CHLORINE continues to increase in importance not only as an agent for the purification of water and the bleaching of textiles, paper and other products but also as a convenient chemical "tool" for the development of new and useful organic compounds.

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Wisconsin Will Use Planting Machines

BLACK RIVER FALLS, Wis. — Tree-planting machines heavy enough to tear through the roots of scrub oaks and replace them with native Wisconsin pines soon will be in action, according to Fred Trenk, Madison, state extension forester. Because most of the forest soils of central Wisconsin are relatively light, they are adapted to machine planting, Mr. Trenk explained. Scrub or jack oak, an almost worthless tree except for fuelwood purposes, now covers much of this land which should be growing native pines for the state's pulp mills and saw mills, he said.

During the last three years, Mr. Trenk reported, a dozen tree-planting machines have been operating in these central counties, planting nearly nine million trees. Most of these plantations are on old fields, Mr. Trenk explained, because the machines were built of light metals.

New tree-planting machines now in production in a Milwaukee plant have been built to operate under more severe brush conditions. Mr. Trenk believes that they will make it possible to hasten conversion of low value scrub oak forests to forests of white and Norway pine.

The forester said that many of the mills of Wisconsin require pine for paper and pulp, and thus a permanent market is assured.

Dr. H. F. Lewis, Dean of the Institute of Paper Chemistry, Appleton, unfolded the part that chemistry and fundamental and applied research play in the development of new products from wood, at the annual field institute for Wisconsin Valley educators at the Trees for Tomorrow Conservation Camp at Eagle River. Dr. Lewis, in his talk "Test Tubes and Trees," stressed the fact that in this nation we are faced with the problems of converting these raw materials into useful products on a sound economic basis. He pointed out the need for expanded research and the fact that 25 per cent of all highly technically employed men in the United States work for ten companies. He said there are fifty thousand men of this type employed throughout the country and that the future of an industry was based upon the level of its technically trained manpower.

Borlew to Germany On Army Assignment

PORT EDWARDS, Wis.—Peter B. Borlew, assistant director of research in the technical department of Nekoosa-Edwards Paper Company since January, 1940, has taken a temporary position with the Chemicals Unit, Technical Industrial Intelligence Division, Office of Technical Services, Department of Commerce, Washington, D. C. Mr. Borlew will be assigned to the Field Information Agency, Technical, Office of Military Government for Germany. His adress while assigned to foreign duty is Industry Branch, FIAT c/o USFET (Main) A.P.O. 757, c/o Postmaster, New York, N. Y.

Michigan Superintendents To Meet September 19

KALAMAZOO—The first fall meeting of the Michigan Division of the American Pulp and Paper Mill Superintendents Association will be held Thursday evening, September 19, at the Park American Hotel. Dinner will be served at 6:30. The speaker for the evening will be Wayne Armstrong, Labor Market Analyst, of the Kalamazoo United States Employment Service Office. His topic will be "Labor Market Trends." At this meeting the annual election of officers for the Michigan Division will be held.

Paper Interest Represented on Lithography Promotion Board

At the annual membership meeting of Books By Offset Lithography, Inc., held recently in New York City the following were elected directors: H. A. Porter, Harris Seybold Company; E. G. Williams, American Type Founders, Inc.; A. Albert Freeman, Visual-art; C. W. Dickinson, R. Hoe & Company; E. E. Jones, Graphic Arts Corp. of Ohio; Charles Morris, Reinhold-Gould, Inc.; F. C. Gerhart, Champion Paper & Fibre Co.; Anthony Math, Sinclair & Valentine Co.; E. B. Davis, Ideal Roller & Mfg. Co.

Immediately following this meeting, the Board of Directors elected the following officers: H. A. Porter, president; C. W. Dickinson, vice-president; Charles Morris, secretary-treasurer; A. Albert Freeman, executive director.

Walter Nooney Buys Pulp For Animal Trap Company

LITITZ, Pa. — Walter G. Nooney, formerly assistant manager of the Morgan Paper Company, has joined the purchasing office of the Animal Trap Company of America, in charge of the purchases of pulp, paper stock and other materials used in the Molded Plastics Division in which is manufactured molded paper products and plastics. Mr. Nooney was with the Morgan company for 30 years prior to entering the service in 1943 as captain and major in the M.A.C. He was released from active duty earlier this year.

Ewing Mills Seeks Orange City Property

ORANGE, Mass. — The Board of Selectmen has met with representatives of the Erving Paper Mills relative to the possible sale to the mills of the property on East River and South Main Streets, now leased to the concern.

The building was bought by the town of Orange from the Westinghouse Electric and Manufacturing Company for use as a fire engine house and other municipal purposes, at a special town meeting, Aug. 7, 1933. The sum of $25,000 was appropriated for the purchase.

The building was never used for a fire engine house, but the first floor was formerly occupied by the highway and water departments.

The Paper Box Company leased the upper floors until 1941, when the entire building was rented to the Erving Paper Mills for five years, at a yearly rate of $1,000, plus upkeep.

Kimberly Golf Team Beats Marathon 20-4

NEENAH, Wis. — Kimberly-Clark golfers won from Marathon Corporation golfers 20 to 4 Saturday, August 10, at Ridgeway Golf Club. A return engagement has been requested by the Marathon team. Jim Gode, Ridgeway Golf Club champion in 1945 and 1946, was the medalist for Kimberly-Clark, turning in a one-over par 73. His opponent, Bob Boebel, was low for Marathon with 77,

Brown Plans Refund Of Its RFC Plan

BERLIN, N. H. — Brown Company, manufacturer of pulp and paper, has mailed to holders of voting trust certificates for its preferred and common stocks a notice of meeting to be held in Portland on September 16 to have certificate holders vote on the continuance of the voting trust agreement, under which directors are elected by three voting trustees. Affirmative action by the certificate holders is the final step toward refunding the company's indebtedness to RFC and is required by the new lenders to assure continuity of management until the extensive program of plant modernization at Berlin and Gorham, N. H., is completed.

A program for improvement of the La Tuque, P. Q., plant of Brown Corporation, wholly owned Canadian subsidiary, has already advanced substantially and further steps to reduce manufacturing costs there are about to be undertaken.

The voting trust agreement was originally required by RFC for a loan to the company for its reorganization in 1941. By its terms the agreement continues until Oct. 1, or such date as the RFC loan is repaid, whichever is later. If the RFC loan is not refunded the voting trust agreement will continue to Nov. 24, 1956, the maturity date of the loan, whereas, under the refunding plan, the voting trust would terminate Oct. 1, 1951.

As a result of the company's improved financial position, the RFC loan can now be refunded and funds for plant modernization provided on favorable terms. Arrangements have been completed with institutions for a refunding loan with a lower interest rate, a later maturity and less onerous repayments on principal than those required by the RFC loan. The refunding plan, which is contingent upon continuance of the voting trust, comprises a serial bank loan of $1,500,000 with interest at 2⅝ per cent maturing at the rate of $300,000 annually commencing with 1948; together with $4,750,000 principal amount of bonds bearing interest at 3⅜ per cent due in 1961, with a fixed sinking fund of $500,000 annually commencing with 1953.

Certificate holders of record at Aug. 9 will be eligible to vote on the continuance of the voting trust agreement at the Sept. 16 meeting. Each such holder is being mailed, together with the notice of meeting, a proxy, a prospectus and a letter from the finance committee of the Board of Directors explaining the need for continuance of the voting trust agreement.

Members of the finance committee are John B. Challies, vice-president, The Shawinigan Water & Power Co.; John H. Fahey, chairman, board of directors, Home Owners Loan Corp.; and Laurence F. Whittemore, president, Federal Reserve Bank of Boston.

Voting trustees are Charles Francis Adams, chairman, State Street Trust Co.; T. Jefferson Coolidge, chairman, United Fruit Co.; and Ernest M. Hopkins, president emeritus, Dartmouth College.

Great Northern Shows Gain For First Six Months

MILLINOCKET, Me.—Great Northern Paper Company and wholly-owned subsidiaries had a net profit of $981,985 for the six months ending June 30, 1946, compared with $637,164 for the corresponding period in 1945, a gain of $344,821. The net profit amounted to $.98 per share in the first six months of 1946 on the 997,480 shares outstanding during the period.

American Writing Profits Higher

HOLYOKE, Mass.—American Writing Paper Corporation reports for the six months ended June 30, 1946, a net profit of $122,059 after all charges, including federal taxes of $118,454 and special reserves of $71,205, equal to 34 cents a share on 360,224 shares of common stock. This compares with net for the like period a year ago of $79,435, after federal taxes of $110,858 and reserves of $81,417 equal to 22 cents a share.

President Thomas H. Blodgett, in report to stockholders says in part: "For the second quarter of 1945, the net profit transferred to surplus was $97,584. This compares with $29,099 in 1945.

"Pursuant to a bank loan agreement your company on July 1, 1945, borrowed $500,000 at 2¼ per cent per annum, the money to be repaid in installments and the entire debt to be satisfied at the end of six years with privilege of acceleration. The borrowed money was obtained to redeem $500,000 principal amount of general mortgage bonds (6 per cent) on July 1, 1946. The funds to carry out the redemption were deposited with the corporate trustees under the general mortgage indenture. The corporation's present long-term debt consists of $505,550 —6 per cent general mortgage bonds and $500,000—2¼ per cent bank loan.

"Contract negotiations referred to in our report for the first quarter have been concluded with the various labor unions and involve an additional annual labor cost of approximately $250,000 effective as of June 3, 1945. Sales price adjustments will be necessary in the regular course of business or through governmental agency approvals if satisfactory margins are to obtain."

FINANCIAL RECORD OF THE WEEK

New York Stock Exchange

High, Low and Last for Week Ending August 17, 1946

STOCKS

	High	Low	Last
A. P. W.	7⅞	7⅞	7⅞
Armstrong Cork Co.	58⅛	57½	57¾
Celotex Corp.	32⅝	31	31½
Celotex Corp., pf.	22	21½	21½
Certain-Teed Products Corp.	25¼	24⅛	24⅛
Certain-Teed Products Corp., pf.	....	....	....
Champion Paper & Fibre Co.	60	55	60
Champion Paper & Fibre Co., pf.	111½	111½	111½
Congoleum Nairn Co.	34¾	33⅛	33⅛
Container Corp. of America	47¾	46	46
Continental-Diamond Fibre Co.	13½	13	13
Crown-Zellerbach Co.	35¼	33¾	33¾
Crown-Zellerbach Co., pf.	110	108¼	109
Dixie Cup Co.	44	43½	43½
Dixie Cup Co.—A	57½	57⅜	57½
Flintkote Co.	39½	36½	36½
Flintkote Co., pf.	....	....	....
Robert Gair	10½	10	10⅛
Robert Gair, pf.	20½	20¼	20⅜
International Paper Co.	51⅜	49	49⅛
International Paper Co., pf.	128	125	125
Johns-Manville Corp.	140¼	134	135
Johns-Manville Corp., pf.	123	123	123
Kimberly-Clark Corp.	63⅜	63½	63½
Mac Andrews & Forbes	40	40	40
Mac Andrews & Forbes, pf.	....	....	....
Masonite Corp.	68	66¾	67¼
Mead Corp.	27	26	26⅛
Mead Corp., pf. 4½	105⅞	104	104
Mead Corp., pf. 2	57¼	56	56
National Container Corp.	35½	34	34
Paraffine Companies, Inc.	80	77¼	80
Paraffine Companies, Inc., pf.	....	....	....
Rayonier, Inc.	27	26⅜	26¾
Rayonier, Inc., pf.	37⅜	37⅜	37⅜
Ruberoid Co.	56	55	56
Scott Paper Co.	58½	58½	58½
Scott Paper Co., pf.	106¾	106¾	106¾
Sutherland Paper Co.	46	45¼	45¼
Union Bag & Paper Corp.	38	35⅞	35⅞
United Paperboard Co.	13¾	13¾	13¾
U. S. Gypsum Co.	124¾	119	122¼
U. S. Gypsum Co., pf.	204	202	203
West Virginia Pulp & Paper Co.	46½	44¾	45¾
West Virginia Pulp & Paper Co., pf.	....	....	....

BONDS

Abitibi Pulp & Paper Co., 5s '53	....	....	....
Celotex Corp. 3¼s '60	....	....	....
Certain-Teed Products Corp. 5½s '53	....	....	....
Champion Paper & Fibre Co. 3s '65	....	....	....
International Paper Co. 5s '47	101⅜	101⅛	101⅜
Mead Corp. 3½s '53	....	....	....

New York Curb Exchange

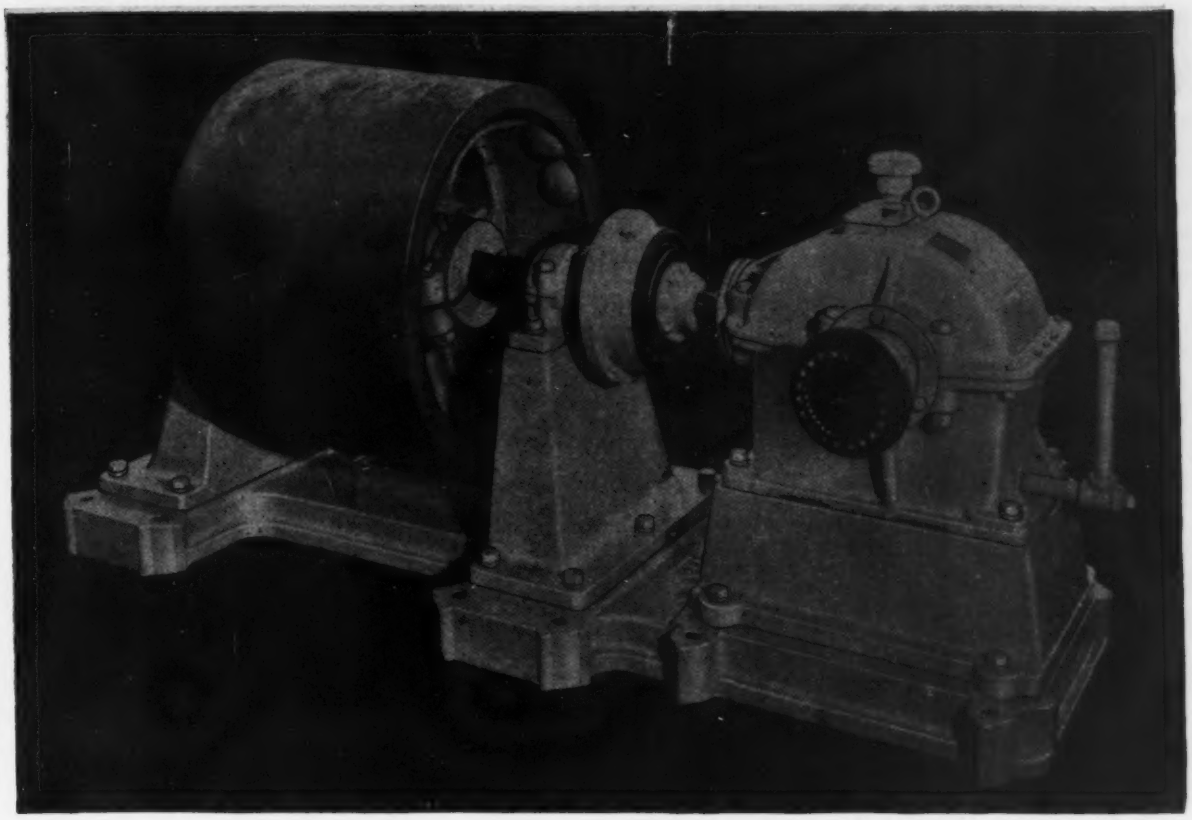
High, Low and Last for Week Ending August 17, 1946

STOCKS

	High	Low	Last
Great Northern Paper Co.	46½	45	45⅛
Hummel-Ross Fibre Corp.	15⅛	14¾	14⅞
St. Regis Paper Co.	13⅜	12⅞	12⅞
Taggart Corp.	10¼	9¾	9¾

BONDS

American Writing Paper Co. 6s '61	....	....	....



Paper Mill Dryer Drive, with Fawick gap-mounted Clutch Assembly.

How to CUT CLUTCH COSTS

Control torque, transmit power, absorb shocks and vibration through a cushion of air—that's what the Fawick Airflex Clutch does.

Here are its cost-saving advantages, all realizable under extreme operation conditions:

1. Maintenance expense reduced—no adjustments to make—no lubrication required.
2. Replacement costs reduced—no springs, arms or levers to break or wear out.
3. Down time much less—better assurance of continued operation.
4. Both prime mover and driven unit have positive protection against the shock of tough starting, and against vibration, even in the heaviest service.

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Let our experienced engineers help you select and install the clutch that best suits your special requirements. Book on request.

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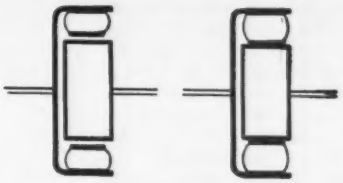

How the FAWICK AIRFLEX CLUTCH Works

Compressed air expands the rubber-and-fabric gland to engage clutch with any degree of "grip" you want. Release the air and clutch disengages.

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In Britain, Crofts Engineering, Ltd., Bradford, England

U. S. Envelope Shows Drop in Earnings

SPRINGFIELD, Mass., Aug. 13—The United States Envelope Company this week declared semi-annual dividends payable to stockholders of record on Aug. 20, amounting to $3.50 per share on preferred stock, and a total of $4 per share on common stock. The dividends are payable September 3. Estimated net earnings for the six months ended June 30, were $330,302.22, after depreciation charges and after estimating federal income taxes based on the federal revenue act now in effect. The comparable figure for the same period last year, the report stated, was $483,-954.18, a drop of more than $150,000.

Manufacturing costs which increased steadily last year have greatly accelerated this year, the board of directors reported. The company was faced with rapidly increasing costs of raw materials, supplies and wages, as well as a strike at the San Francisco division, while products were being sold under OPA ceilings established in 1941, the repotr stated.

On May 15 of this year, suspension of OPA price controls on the envelope industry allowed the directors to make adjustments in prices on certain products, pointing the way toward increasing earnings for the balance of the year.

Sales for the six-month period which ended June 30, 1946, were 12 percent below the similar period in 1945, and stock inventories were approximately $44,000 higher on June 30, than they were on Decemebr 31, 1945. In the six-month period which ended in June, a total of $217,324.15 was added to the machinery and equipment accounts.

Construction of a new plant at Atlanta, Ga., is now in progress, and another new plant is under construction at Emeryville, Cal., and is expected to be completed by late fall. The Emeryville plant is scheduled to house equipment from the old plant at San Francisco.

Willard E .Swift, Eldon V. Johnson and Magnus F. Peterson comprised the executive committee submitting the report to the company's stockholders.

Florida's Taylor County Invites Paper Mills

PERRY, Fla.—Officials of the local Chamber of Commerce and the city government here have hoisted a welcome sign for industrialists who may be considering location of a pulp and paper mill in Taylor County.

The Taylor county commission, city council of Perry and Chamber directors have placed their stamp of approval on this type of industry.

"We hope to see a paper mill installation by local interests," President Joseph H. Scales, Jr., of the Chamber of Commerce, stated, adding that "if not, we will cover the country until this development matures."

Mr. Scales went on to say that nearly a dozen surveys in the last year have named Taylor county as first choice in the Southeast for location of one or more paper mills. As noted, the Brooks-Scanlon and Lee Tidewater Cypress lumber firms are among larger timber processing plants in the county.

Kimberly Unions Ask Labor Board Hearing

KIMBERLY, Wis.—The issue between the independent Kimberly Mill Workers Union of Kimberly-Clark Corporation and the Kimberly Mine Workers District 50 Union was discussed Tuesday evening, August 11, at a meeting of the former union.

UMW representative asked that a hearing before the labor board, due soon, be disregarded and that the independent group vote on a consent election. Ray Haase, president of the independent union, said that if the Mine Workers hoped to railroad their idea through they were out of luck. The Mine Workers organization is challenging the independents, and at an informal meeting at Neenah on July 31 with Kimberly-Clark management, asked for a hearing which should be announced soon by the labor board.

The largest crowd ever to attend a union meeting was present at the meeting. A large number of members were in the hall listening through open doors.

Aside from the interunion dispute, it was announced that nearly $5,000 had been collected during the war through a 10-cent monthly contribution by each worker to a GI fund to be paid to Kimberly mill employes in the service upon their return. Bernard Spaay, treasurer, is now making these payments.

Pennsalt Net Earnings Reach $1,460,335.23

PHILADELPHIA — The Pennsylvania Salt Manufacturing Company announced recently net profits of $1,460,-335.23 for the fiscal year ending June 30, 1946, after deduction of Federal taxes. The profits are equivalent to $1.95 per share on 750,000 shares of $10 par stock outstanding, as compared with earnings for the fiscal year ending June 30, 1945, of $1,441,022.17 or $1.92 per share.

NEPCO Stages Its Harvest Festival

WISCONSIN RAPIDS, Wis. — The annual Nekoosa - Edwards Paper Company Harvest Festival will be held August 24 at Alexander High School gymnasium, with C. E. Treleven as general chairman. Prizes will be awarded for various exhibits, such as work done by Boy Scouts and Girl Scouts at Nekoosa and Port Edwards, and for flowers, etc.

Schulman Controls Louis De Jonge & Co.

Louis Schulman, president of Louis Schulman Co., Inc., has purchased a controlling interest in Louis Dejonge & Co., a century-old paper concern at 345 Broadway, New York. Mr. Schulman, who is also head of A. S. Datz & Son and Springfield Coated Paper Corp., was elected a director of the Dejonge company in May.

Combined sales of the Schulman enterprises total $6,000,000 per annum and with building expansions and installation of additional equipment in the Camden and Staten Island mills (already started) will be substantially increased. Approximately half the sales are credited to Dejonge, the other half divided between the Schulman company in New York, Datz in Philadelphia and the Springfield corporation in Camden. All specialize in various grades and types of paper for covering setup paper boxes, a $200,000,000 industry. Papers for bookbinding, store window trimming, lithography, gift wrapping, label and other printing work are also produced.

Directors of the Dejonge company in addition to Mr. Schulman are John J. Kelly, manager of the Springfield corporation; M. Joseph Hrom, manager of Datz & Son (elected August 13, replacing Louis Dejonge and Nelson Hayes); Samuel W. Ziegler, general manager and John Blakle, assistant manager respectively of the Schulman company; H. B. Conklin and Hars Clason. New directors will later replace the last two named, their resignations becoming effective December 31.

Standard Paper Staff Ends Three-Weeks Strike

RICHMOND, Va.—A strike which had been in progress at Standard Paper Manufacturing Company since July 23 was ended August 12 by an agreement reached at a meeting of representatives of company and unions, it was announced by Howard S. Donald, company president. The unions, International Brotherhood of Papermakers and the International Brotherhood of Firemen and Oilers, both AFL, instructed the employes to report immediately for work.

Terms of the settlement were not revealed. C. Robert Atwood, international representative of the papermakers, could not be reached for a statement.

Informed sources here said the strike of the papermakers came after three months of negotiation failed to produce a contract satisfactory to the union, and the firemen and oilers walked out in sympathy action. The strike silenced the three plants where absorbent and printing paper is manufactured and was the first in the company's history, officials said.

Night – *like the Light of Day*

THE SUN drops behind distant hills . . . Darkness enwraps our material existence . . .

But night has little of its pristine terror and tragedy . . .

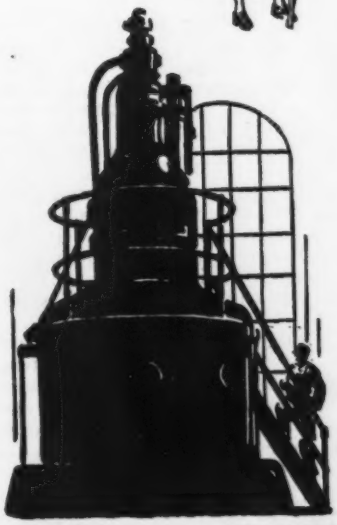
For witness a wondrous transformation . . .

Electricity dispels the darkness—and the *light of day returns!*

Streets become safer . . . Emergencies in the home and hospital are met . . . Industry functions with nightshifts . . . And storekeepers pursue their trades! . . .

Because of ELECTRICITY generated, often times, hundreds of miles away. Mighty hydraulic turbines tirelessly transform water's energy into useful mechanical energy for the benefit of man!

For more than 72 years, we have pioneered and led in this utilization of water. As a result, we have a wealth of experience and engineering skill *which you can use at a profit by placing your power problem in our hands!*



If It's Hydraulics–Put It Up to Us.

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POWER by SMITH

Three Suits Filed Against Norwood

NORTHAMPTON, Mass. — A $100,000 attachment and a bill in equity seeking several restraints, have been filed by the Norwood Filtration Company of this city against the Norwood Engineering Company and others. The attachment, second large one to be placed against the Florence concern, was filed in the Registry of Deeds and the bill in equity was filed in Superior Court here, but will be heard in Boston.

Among the major points in the bill is a request for the Norwood Engineering Company to show cause why a receiver should not be appointed. Several restraints on the officers and owners of the plant are also sought, but the exact nature of the restraints could not be learned.

Named in the bill in equity, among others, are Edward and Aaron Krock, recent purchasers of the Norwood Engineering Company, who have been negotiating for re-sale of the concern, according to reports.

The Norwood Filtration Company, which brings the suit, was formerly a part of the Florence concern, but is now understood to be a separate company. Hearing on the equity bill is scheduled for Boston, it was explained, because there is no session of Superior Court in this city or Springfield, at the present time.

Two additional bills in equity were filed in superior court here later in the week against the Norwood Engineering Company. One was brought by the Bagley and Sewall Company of Watertown, N. Y., by its counsel, Att'y Luke F. Ryan of this city, and the second by the Westinghouse Electric Company of Boston. No returnable date has been set for the former bill but the latter is set for Aug. 21 in Boston.

The bill brought by the Bagley and Sewall Company names James M. Smith and the Norwood Engineering Company as defendants. Smith is the assignee to whom the property was transferred under an assignment for the benefit of creditors. The action seeks to prevent the transfer or sale of any of the property of the Norwood company and the return to the property of that portion of it assigned to Smith.

The plaintiff asks the court to ascertain how much money the Norwood Engineering Company owes it, to declare null and void the transactions under which Smith received part of the Norwood property, that the property which has already been transferred to Smith by the company be applied for the satisfaction of Sewall and Bagley's claim against Norwood and that the portion still retained by Aaron and Edward Krock of Worcester, ostensible owners of the company, also be applied to satisfy the plaintiff's claim.

The bill also ask that Smith and the Krock brothers be ordered to account for the value of the company at the present time, and that a restraining order and a temporary injunction be issued to prevent the Krocks and Smith and all their agents or attorneys from transferring or selling any of the Norwood property.

The bill is said to be substantially the same as that brought by the Westinghouse company. Each adds to a growing entanglement of litigation in which the Norwood company and the Krock brothers are now involved. The suits against the company are already in excess of $150,000.

U. S. Envelope Force Takes a Day Off

SPRINGFIELD, Mass.—Approximately three hundred employes of the United States Envelope Company plant left the Cypress Street factory last Saturday for their annual outing at Hampton Ponds.

The program included a series of sports events, hoop, sack, potato, shoe, wheelbarrow and three-legged races and shoe kicking and ball throwing contests. Cash prizes were awarded the winners, ith separate contests for men and women. Lunch was followed by a clambake, dancing, softball games and swimming.

General chairman for the outing was Ralph Wallenius. His committee included James Doyle, George Burridge, Frank Sabot, Rose Marchetti, Margaret Howard, Edward Seidel, Jessie MacGregor, Walter Kroll, Vincent Volpini, Lilli Flath, Mabel Pasternick, William Cullinane and Lester Sears.

Truck Strike Holds Up Holyoke Mill Deliveries

HOLYOKE, Mass.—Shipment of paper and paper mills supplies and equipment is being held up by a strike of a thousand truck drivers in northern Massachusetts and upstate New York. The walkout, involving International Brotherhood of Teamsters, AFL, unions is holding up consignments of paper from Holyoke mills, and New York state paper bound for Holyoke converting mills.

More than a dozen Massachusetts trucking firms, mainstays of the Holyoke paper industry, are tied up in the walkout, which climaxes a month-long dispute for higher wages.

Smith Staff Stages Unauthorized Strike

LEE, Mass.—All 700 employes of the Smith Paper Company walked out this week in protest against an alleged violation of a contract between the company and the International Brotherhood of Paper Makers (AFL).

Frederick J. Rochford of Westfield, agent for the union, said at a meeting that the walkout was not sanctioned by the union. He said the strike developed when a negotiating committee could not settle grievances between the workers and the company.

APW Wins Right to Continue Red Cross

WASHINGTON, D. C.—A.P.W. Paper Company, Incorporated, Albany, N. Y., may continue to use the Red Cross name and symbol in the sale of toilet tissue and paper towels, but labels and advertisements of the products must contain a statement disclaiming any connection with, or approval by, the American National Red Cross, under the terms of a modified cease and desist order issued by the Federal Trade Commission.

Previously, in an order issued January 7, 1944, the Commission had imposed an absolute ban on commercial use of the Red Cross name and emblem. This order is now modified to conform to the decision of the United States Circuit Court of Appeals for the Second Circuit, as recently affirmed by the Supreme Court. The Circuit Court reversed the 1944 order and remanded the case to the Commission for further proceedings in conformity with its opinion that the Commission may not absolutely forbid the respondent to use the Red Cross name and symbol but may prevent their use in a deceptive manner.

The modified order provides that whenever the Red Cross name and emblem are used in connection with the respondent's products, they must be accompanied by a statement that "This product is not sponsored or approved by or in any manner associated or connected with the American National Red Cross." This disclaimer must be "clearly and conspicuously" stated in immediate conjunction with the Red Cross words or symbol, according to the order.

In reversing the Commission's order, the Circuit Court, and later the Supreme Court, upheld the respondent's contention that the corporation is expressly authorized to use the Red Cross name and emblem under the provisions of the Act of Congress of January 5, 1905, as amended by the Act of 1910. This statute provides that no person, corporation or association that has actually used the Red Cross name or symbol for any lawful purpose prior to January 5, 1905, "shall be deemed forbidden by this Act to continue the use thereof for the same purpose and for the same class of goods." It was established that the corporation had marketed toilet tissue under the Red Cross trade name and emblem since 1897.

The case went to the Circuit Court when the respondent filed a petition to review and set aside the Commission's order, and the lower court's decision was affirmed by the Supreme Court on certiorari.

Eagle Lodge Escapes Fire

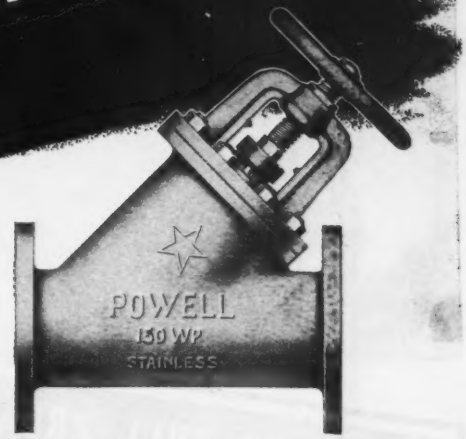
HOLYOKE, Mass.—The offices of the Eagle Lodge of Papermakers suffered slight smoke and fire damage early today as flames swept the building in which they are located.

Let POWELL guide your way to assured, unfailing flow control

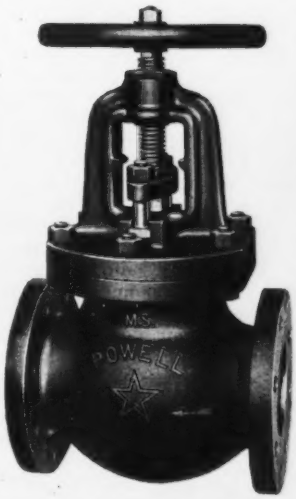
Through the ages, men on land and sea have been guided to their destination by the *North Star*. It is easy to find because it is almost in line with the two stars on the right end of the "Big Dipper."

Many years ago Powell patented the famous "Star" Regrinding Globe Valve. Today, the *Powell Star*, backed by 100 years of accumulated technical knowledge and manufacturing skills, is serving Industry as a guide to assured, unfailing flow control. The Complete Powell Line includes valves for every known industrial service and as new demands arise Powell Engineers will design valves to meet them.

Catalogs gladly furnished on request. Kindly specify whether you are interested in Bronze, Iron, Cast Steel, or Corrosion Resistant Valves.

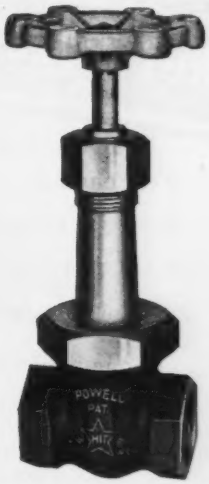


Large size 125-pound Stainless Steel "Y" Valve with flanged ends, bolted flanged yoke-bonnet and outside screw rising stem. Sizes 2½" to 12", inclusive.

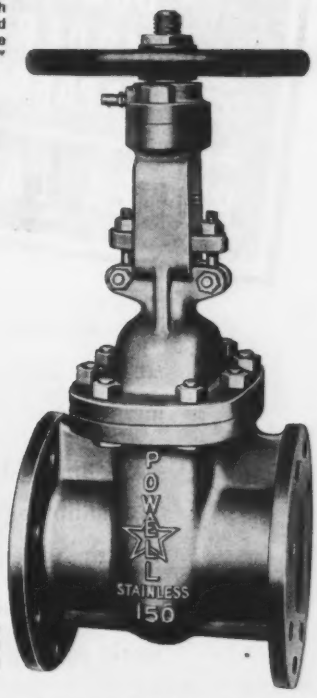


Large Iron Body Bronze Mounted Globe Valve for 125 pounds W. S. P. Has outside screw rising stem, bolted flanged yoke and regrindable, renewable bronze seat and disc. Also made in All Iron for process lines.

125-pound Iron Body Bronze Mounted Swing Check Valve with bolted flanged cap and regrindable, renewable bronze seat and disc. Also made in All Iron.



200-pound Bronze "White Star" Gate Valve with inside screw rising stem, union bonnet and renewable, wear-resisting "Powellium" nickel-bronze disc.

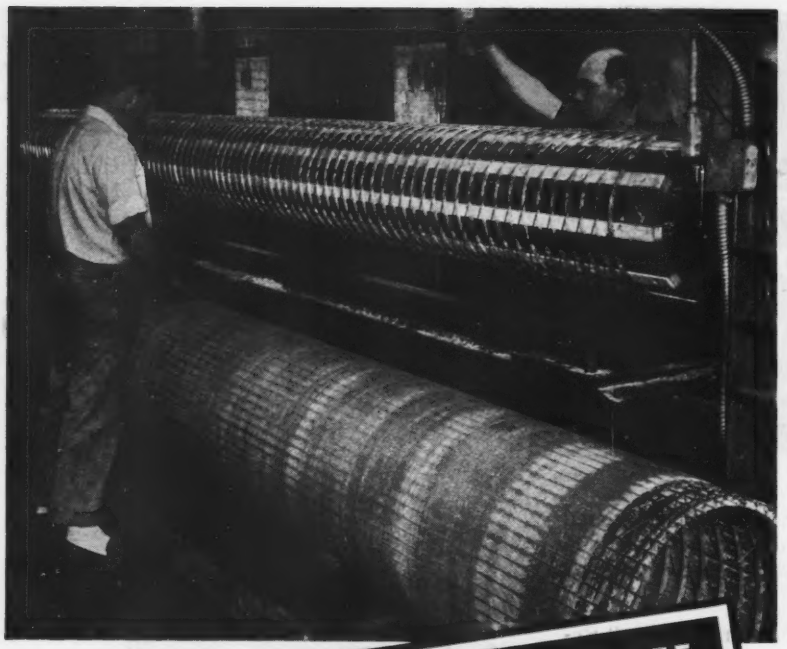


Standard 150-pound Stainless Steel Gate Valve with flanged ends, bolted flanged yoke-bonnet, outside screw rising stem and taper wedge solid disc. Sizes 2½" to 8", inclusive.

The Wm. Powell Co., Cincinnati 22, Ohio

DISTRIBUTORS AND STOCKS IN ALL PRINCIPAL CITIES

POWELL VALVES



OUR FULL PRE-WAR STAFF
MODERN NEW EQUIPMENT
+ EXPANDED PLANT FACILITIES
BETTER DANDY ROLL SERVICE

Yes, our full pre-war crew of dandy roll craftsmen is back with us again. To help them do an even *better, faster* job than ever before, we have added modern new equipment and increased our plant facilities.

All this adds up to one thing — a greater capacity for reconditioning old dandys and fabricating new ones. And the same story is true of our cylinder mould service.

When you want prompt, efficient dandy or cylinder work, you can call on Cheney Bigelow with confidence.

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Pulp and Paper Mill Equipment

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John R. Kimberly Dislocates His Hip

NEENAH, Wis.—John R. Kimberly, Limekiln Point, dislocated his hip when he stepped from his cruiser to the dock of the Gun Club below Winneconne, Wis., Saturday evening, August 10. He was taken to St. Elizabeth hospital at Appleton in the Neenah ambulance.

Mr. Kimberly, who was with his son Bob, and Laurel Heaney on the Kimberly cruiser, planned to dock at the Gun Club pier for the night, and Mr. Kimberly was going over to the Arthur Wakeman boat to invite Mr. Wakeman and William Kellett to have supper on the Kimberly cruiser when the accident occurred.

OBITUARY

Logan G. Thomson

HAMILTON, Ohio—Logan G. Thomson, president of The Champion Paper and Fibre Company, died August 9, while on vacation in LaJolla, California. He had left Hamilton in good health in June, and only a short time ago contracted his fatal illness.

Mr. Thomson was born in Cincinnati, in 1884, the youngest of five children of Peter G. Thomson, the founder of Champion. He entered his father's business 41 years ago, starting as a laborer in the mill. From these various mill jobs he acquired a thorough knowledge of the papermaking industry. He also developed a sympathetic interest in the well-being of his fellow employees, an interest that so often manifested itself in the dealings of the company with its thousands of employees.

This long period of company service was interspersed with attendance at Williams College, and army service as a Captain in World War I. Mr. Thomson held successively the positions of manager of Champion's New York sales office, assistant production manager, became a director in 1916, secretary-treasurer 1920, and first vice-president in 1931. In 1935 he became president of the company, succeeding his brother, Alexander Thomson, Sr., and served in this capacity until his death.

Mr. Thomson long has been recognized as one of the country's leading industralists. During his association with the company, he saw Champion grow from a small coating mill to one of the largest manufacturers in the industry.

A son, Dwight J. Thomson, a former navy lieutenant, now is associated with Champion's home office in Hamilton.

Henry G. Pike

NORTHBRIDGE, Mass.—Henry G. Pike, 68, long-time papermaker, died in a Boston hospital Aug. 14. He was born in Old Pelican, Trinity Bay, Newfoundland, but had lived in this community for 43 years. He was employed for 37 years in the Kupfer Brothers Paper Company, Riverdale.

Attention, Mills!

Forecast for...

today and the many tomorrows

SUCCESS, with an ever-increasing volume of sales and a wider and permanent distribution of your products . . . . . This forecast is based on "the records" which The La Boiteaux Company has established for its mills in the United States and Canada . . . . . Let this be your forecast of *success* . . . using "La Boiteaux Service"

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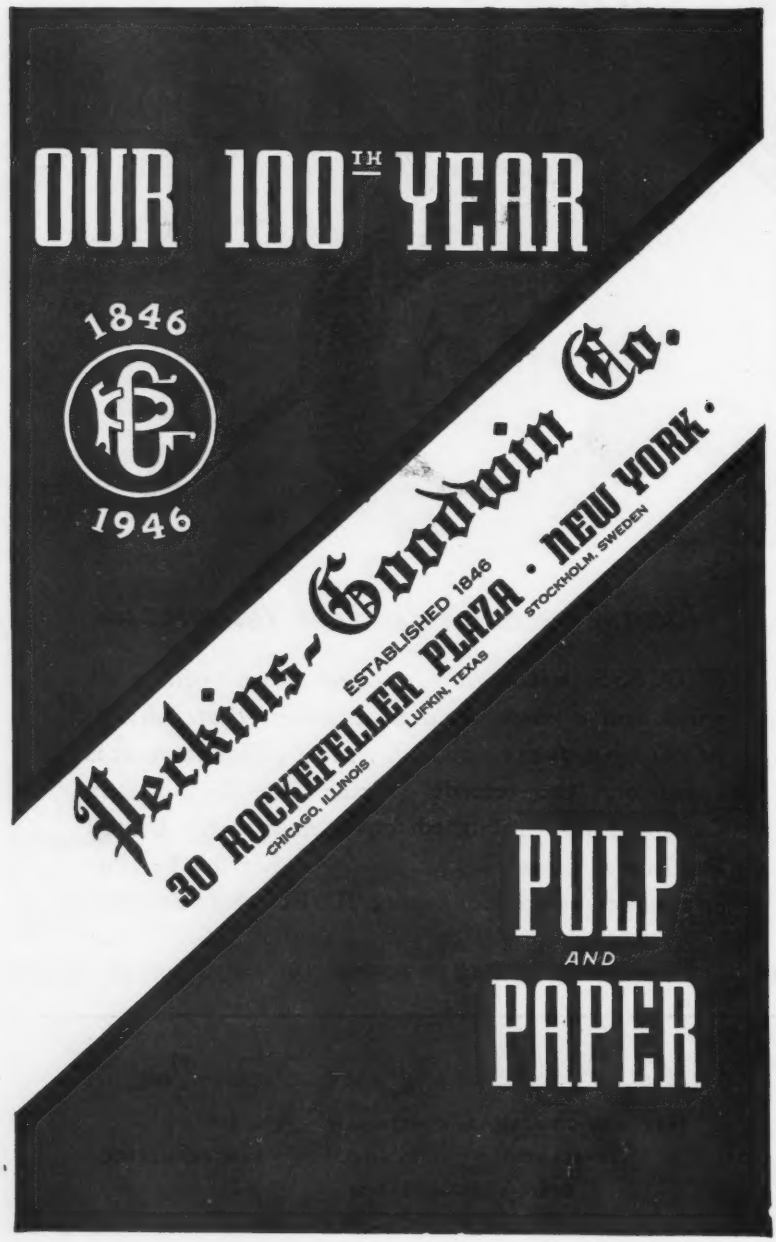
F & P Catalog Describes Bead Guide Meter Tube

HATBORO, Pa. — Catalog section 15, describing a new Bead-Guide Rotameter metering tube, has been distributed by Fischer & Porter Company. This newly developed tube is said to eliminate the necessity for float guide rods, since the guiding of any shaped float is done by three ribs formed in the inner face of the tapered, corrosion-resistant glass metering tube. The float position in opaque liquids is read with ease. Corrosive liquids can be handled readily since the float material can be selected without considering the need for drilling it and without having to consider guide wire materials. The catalog section contains a full page of flow ranges available to simplify old-style Rotameter modernization.

Permutit Booklet Explains Water Softener Systems

Basic types of ion-exchanging water softeners for industrial, institutional and municipal use are explained in a booklet issued by The Permutit Company, New York. The water softeners, manufactured by The Permutit Company, are of both pressure and gravity types which feature automatic equipment to control backwashing, brining and rinsing processes. Copies of the booklet can be had upon written request to the company.



Tom Reese, Jr., Takes Over For His Dad at Buffalo

BUFFALO, N. Y.—Thomas J. Reese, Jr., has been appointed Buffalo branch manager for International Printing Ink Division of Interchemical Corporation. He is taking over the administrative functions of the branch from his father, Thomas J. Reese, who will continue to give the benefit of his long experience and broad knowledge to the Buffalo branch, devoting a good deal of his time to interests outside the office.

Tom Reese has been with the company since 1908. He became manager, secretary and treasurer of the Ault & Wiborg Buffalo Company in 1919. After the merger of Ault & Wiborg into International Printing Ink Corporation he became president of the new organization. In 1931 he was elected president of the International Printing Ink Corporation of Canada and since 1933 has been manager of the Buffalo branch of IPI.

Westvaco Chlorine Sends Oskin to Detroit

DETROIT — Donald C. Oskin, who joined Westvaco Chlorine Products Corporation, New York, late last year after serving for four years at a major on the staff of General Doolittle, has been made resident manager of the recently opened Westvaco office at 1900 East Jefferson Street. Mr. Oskin is a graduate of Lehigh University and was associated with the Bethlehem Steel Company in technical sales capacities before entering the Army.

Hercules Advances Four In PMC Department

WILMINGTON, Del. — Four members of the research staff of Hercules Powder Company's Paper Makers Chemical Department have been assigned new posts, the company announced this week. Dr. William P. Campbell, leader of the PMC research group at the Experiment Station near Wilmington is appointed Director of Development with headquarters in the Wilmington home office. Dr. W. Donald Thompson, Jr., formerly assistant group leader, is named acting PMC group leader at the Experiment Station. Research chemists Dr. James W. Davis and Dr. Stearns Putnam are assistant group leaders of the Paper Makers Chemical group at the Experiment Station. Dr. Putnam formerly was engaged in general research work, while Dr. Davis has been engaged in paper chemicals research.

Dr. Campbell joined the Hercules Experiment Station staff in September, 1941, after five years of chemical research on resin acids at Harvard University. He became leader of the PMC research group in January, 1944. He received his A.B. degree from St. John's College, Annapolis, Md., and his Ph.D. degree from the University of Maryland in 1936.

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Australia Suffers Shortages In Almost Every Line

PERTH, West Australia — The Commonwealth Statistician reveals that imports of newsprint into Australia during the month of March were of a total of only 4,759 tons, against 13,803 tons in February and 13,330 tons in January. For the year ending March, 1946, total imports of newsprint were 104,773 tons, valued at 1,856,738 pounds ($8,912,342 at par). Imports of other papers during March were as follows: Imitation art, 5 tons (all from the United Kingdom), other coated printing paper, 43 tons (all from U.K.), lithographic, machine glazed or one-side calendered, 41 tons (40 tons from U.S.A., 1 ton from U.K.), and other printing papers, 313 tons (Canada 226 tons, U.S.A. 46 tons, U.K. 41 tons). There were no imports of duplex, glazed imitation parchment, offset embossed, or poster printing machine-glazed.

Shortages are general in many lines of stationery, particularly in good typewriting papers. Envelopes are also in short supply, and it is reported that a Sydney firm recently attempted to purchase 50,000 envelopes from Western Australia, but without success.

Cigarette papers are also exceedingly short, and on the black market these are now selling at 24c a packet against the usual 7c. Approval has been given by the Minister for Customs (Senator Fraser) for licenses to be issued for their importation, and such licenses will be made available upon production of evidence that the goods are procurable from the country concerned. Export of cigarette papers has been forbidden without special permission.

It is revealed that the total output of Australian Paper Manufacturers, Ltd., a firm which now has five mills, was 117,902 tons for the year 1945, and this was divided almost equally between paper and cardboard. Firm's Maryvale pulp mill achieved a record production of 36,500 tons of chemical pulp, enabling the other mills to operate on full time.

Merchant Reports Increased Trade

Edwards Dunlop & Co. Ltd., paper merchants, report a net profit of 39,500 pounds ($189,600) for the year ending April 30, 1946. Directors report that the company's turnover increased during the year, and that paper stocks were larger than a year ago. "Outlook for the future," states their report, "is rather disquieting in regard to supplies of paper from overseas, and there seems no indication of when improvement can be expected."

Of considerable interest to paper manufacturers in this country is the fact that the Federal Government has decided to place the splendid research laboratory at Maribyrnong, Victoria, at the disposal of industrial concerns absolutely free of all cost. Laboratory was built up at vast expense and with great thoroughness during the war years, and the present staff numbers upwards of seven hundred, including sixty-six chemists and twenty-five physicists. Apparatus and equipment available for the carrying out of scientific tests and experiments is valued at more than $1,920,000.

The Prime Minister (Mr. Chifley), in announcing the retirement of Mr. A. C. Moore from the post of Director of Import Procurement, stated that it was unlikely that a successor would be appointed as import procurement requirements will cease by the end of the year, when all such activities will be merged with the Customs Department. This is good news for importers, for over a lengthy period the Division of Import Procurement has been generally known as the Division of Import Prevention, and the cost of running it is estimated at some $2,400,000 per year.

Figures made available by the Commonwealth Bank show that factory sales of paper and printing dropped considerably in Victoria last month. Figures for the other States are not available.

Investigate Status of Licensing

The Auckland (New Zealand) Chamber of Commerce has decided to ask the Associated Chambers of Commerce to ascertain if import licensing in the post-war period is not a breach of international agreements made in pre-war days, and the legal aspect of this matter is one of more than usual interest, inasmuch as the Prime Minister (Mr. Fraser) has publicly stated that import control is an inherent part of the Labor Government's policy.

The Australian Chemical Institute has awarded the Grosvenor Laboratory Prize for 1945 to Dr. W. E. Cohen, principal research officer of the Division of Forest Products, and Dr. A. Meller, research chemist of Australian Paper Manufacturers Ltd., for their contributions to the development of the paper industry in Australia.

Some idea of how the war affected both the size and the income of Australian newspapers is given by "Newspaper News" in a tabulation of figures which show that for every 100 pages of newspaper advertising in 1939, there were only 85.2 in 1940. By 1941 this had dropped to 71.4, by 1942 to 43.5, by 1943 to 31.7, and by 1944 to the low level of 31.0. In 1945, however, signs of recovery were shown with 41.3 pages for every 100 used in 1939.

Among the trade-marks recently registered in this country were: Word "Ivorex" for pulp board; word "Mellotex" for printing paper (not photographic), paper for the manufacture of stationery, etc., and moulds made of paper for plastics; and word "Sorbex" for similar items.

Among the firms who recently assisted the Legacy House appeal in Sydney was Paper Products Pty. Ltd., who donated $140.

Finland Promises to Ship More Pulp

WASHINGTON, D. C. — Imports of wood pulp from Finland will be almost tripled during the last six months of 1946, the Civilian Production Administration said last week.

CPA officials said that they had been informed by the Finnish Cellulose Corporation that Finland is prepared to increase its exports of wood pulp to the United States from about 35,000 short tons in the first half of 1946 to a total of 100,000 short tons in the last half of 1946 and 220,000 tons in all of 1947.

The Finns, short of coal since early in the war, have been using wood for fuel. The United States, acting on the recommendations of the European Coal Organization, has been able to increase the amount of coal shipped to Finland. The additional coal supplies will permit the increased wood pulp exports to the United States.

Officials at CPA also said that it was expected that in 1947 Finland will be able to increase its exports of newsprint to this country.

Canadian Pulp Now on Adjustable Price Basis

WASHINGTON, D. C.—Pulpwood may be imported from the three Canadian provinces of Quebec, New Brunswick and Nova Scotia on an adjustable basis, by a ruling this week of the Office of Price Administration. This authorization, effective August 19, was granted pending a study by OPA to determine whether an increase should be allowed in existing ceilings for imported pulpwood.

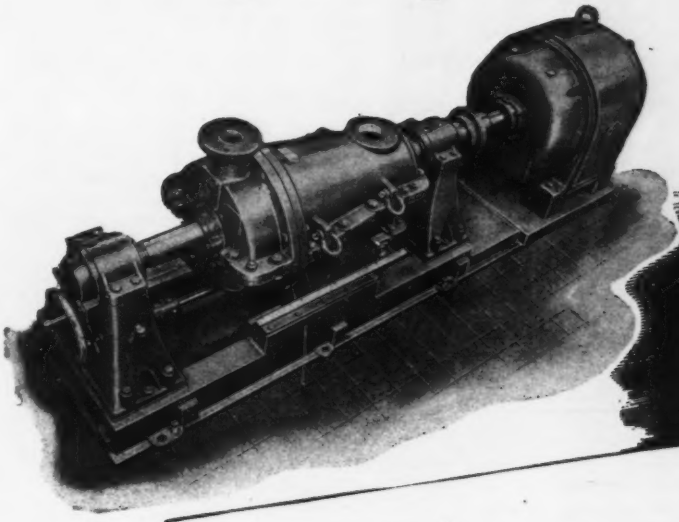
Under this interim action, sellers are permitted to deliver the wood on open billing, collecting no more than existing ceilings at present, but authorized to later collect any increase that OPA may grant as a result of the price study.

OPA said that Canada's ceiling prices for pulpwood had been increased recently and, with no change made in the United States ceilings for this pulpwood when imported into this country, shipments were being retarded that are essential to the manufacture of paper and paper products here.

(Order 1 under Maximum Price Regulation 540—Authorization of Adjustable Pricing—effective August 19, 1946.)

SERIES "B" OF TYPICAL JONES HIGH SPEED REFINER APPLICATIONS

a mighty mite for stock preparation



THE JONES *High Speed* REFINER

APPLICATION No. 4:—

In a mill making kraft condenser, the JONES HIGH SPEED REFINER completely eliminates many long hours of beating. By using a cycling arrangement, it produces a better sheet more efficiently.

APPLICATION No. 5:—

In a board mill, the JONES HIGH SPEED REFINER defibres over issue news (replacing a 150 H.P. Refiner). The stock comes slushed from breaker, passing directly into the Jones Refiner which runs at 1200 R.P.M., using 60 H.P., and producing 22 tons per day.

APPLICATION No. 6:—

In another mill, the JONES HIGH SPEED REFINER is used exclusively for clearing flakes from coated book broke (replacing a larger Jordan, 150 H.P. motor) — and operates at 900 R.P.M., using 40 H.P. Volume of stock handled is 2400 lbs. per hour, and more.

Jones

E.D. JONES & SONS COMPANY - PITTSFIELD, MASS.
Builders of Quality Machinery for Paper Mills

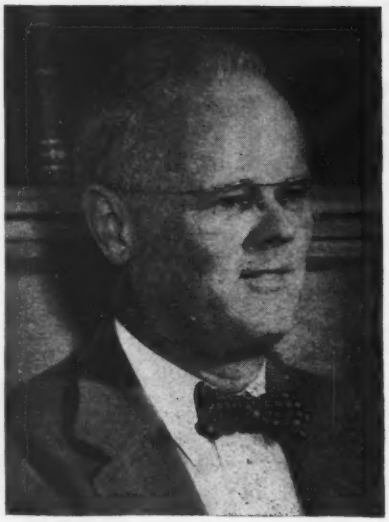
MANUFACTURERS AND DISTRIBUTORS IN CANADA: WATEROUS LTD., BRANTFORD, ONT.

Bird & Son Elects Anderson President

EAST WALPOLE, Mass. — Axel H. Anderson was elected president of Bird & Son, Incorporated, at last week's meeting of the Board of Directors. Mr. Anderson, who has been secretary-treasurer of the company since 1930, will succeed Benjamin H. Roberts. In retiring as president, Mr. Roberts was elected vice-chairman of the Board of Directors.

Mr. Anderson joined the Bird organization in 1918 as auditor, later becoming office manager and comptroller. In 1930 he was elected a director and made secretary-treasurer of the company. He was born in Manchester, Conn., in 1894 and was educated in the public schools there.

He is secretary-treasurer and director of the Bird Machine Company of South Walpole and also of the Berry Asphalt Company of Chicago. Mr. Anderson is deeply interested in church and civic affairs, having served as a member of the Board of Selectmen of Walpole. He is at present a member of the Board of Commissioners of Trust Funds of Walpole. He is president of the Board of Trustees of the Norwood Hospital and a trustee of the Peabody School for Girls in Norwood.



AXEL H. ANDERSON
Advanced to Head Bird & Son

Keeler and Fogelstrom Resign

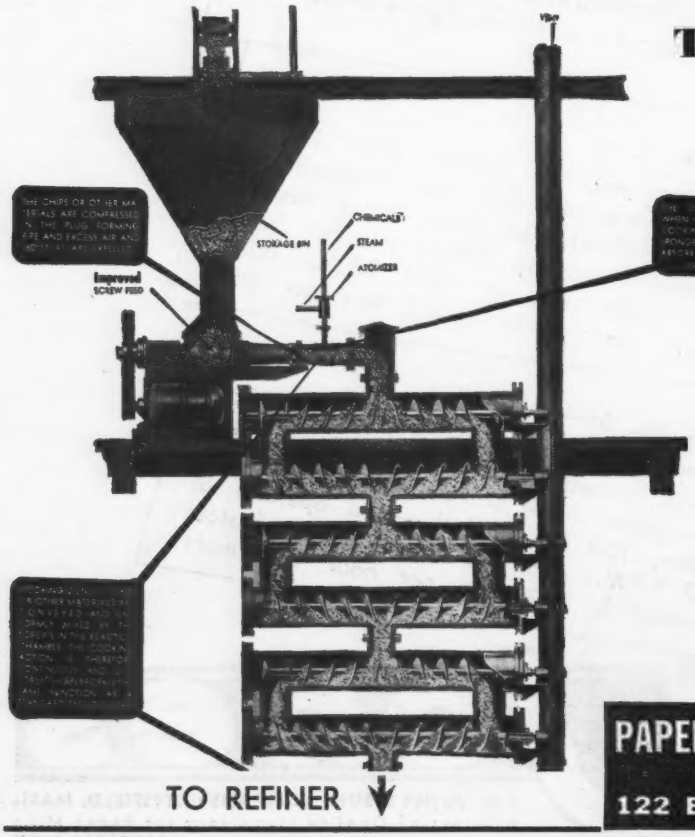
CHICAGO—E. J. Keeler, Illinois district mill representative, and T. W. Fogelstrom, special executive representative of the Mid-States Gummed Paper Company, have resigned. Both had been with the company for a period of twenty years and both are likewise uncertain as to their plans though they are expecting to continue in the paper industry.

OPA Studies Curbs on Evasive Practices

WASHINGTON, D. C. — An action taken July 26, 1946, designed to check evasive practices in connection with sales of paperboard to corrugated and solid fibre container manufacturers, has been temporarily suspended by the Office of Price Administration. The suspension, effective August 13, 1946, will be lifted not later than September 1, 1946, unless the agency decides to take other means of meeting the situation.

The action of July 26 prohibited sales by paper manufacturers to the corrugated and solid fiber container industry of different papers labeled as imitation kraft wrapping paper, bogus wrapping paper, beaming paper and similar grades, in rolls above 18 inches in diameter, at prices in excess of ceilings established for sales of paperboard.

OPA said that it planned to reinstate the action with certain exceptions to this rule where the sales would not constitute an evasion of price ceilings for paperboard, and for other cases in which the continuation of purchases of wrapping and other papers is necessary to insure essential supply. The interim action is taken to avoid curtailment of production of paperboard for the containers, as well as containers, which are essential to the flow of goods to market.



THE CHEMIPULPER

(Patented and Patents Pending)

For Continuous Production of Semi-Chemical Pulps

Through the use of the CHEMIPULPER, it is possible to produce fibres for the manufacture of: (1) insulating (soft) board, hard board; (2) roofing and flooring felts; (3) special fibres for industrial uses such as bulk insulation, plastics, etc., and (4) semi-chemical pulps for the manufacture of paper and paper board.

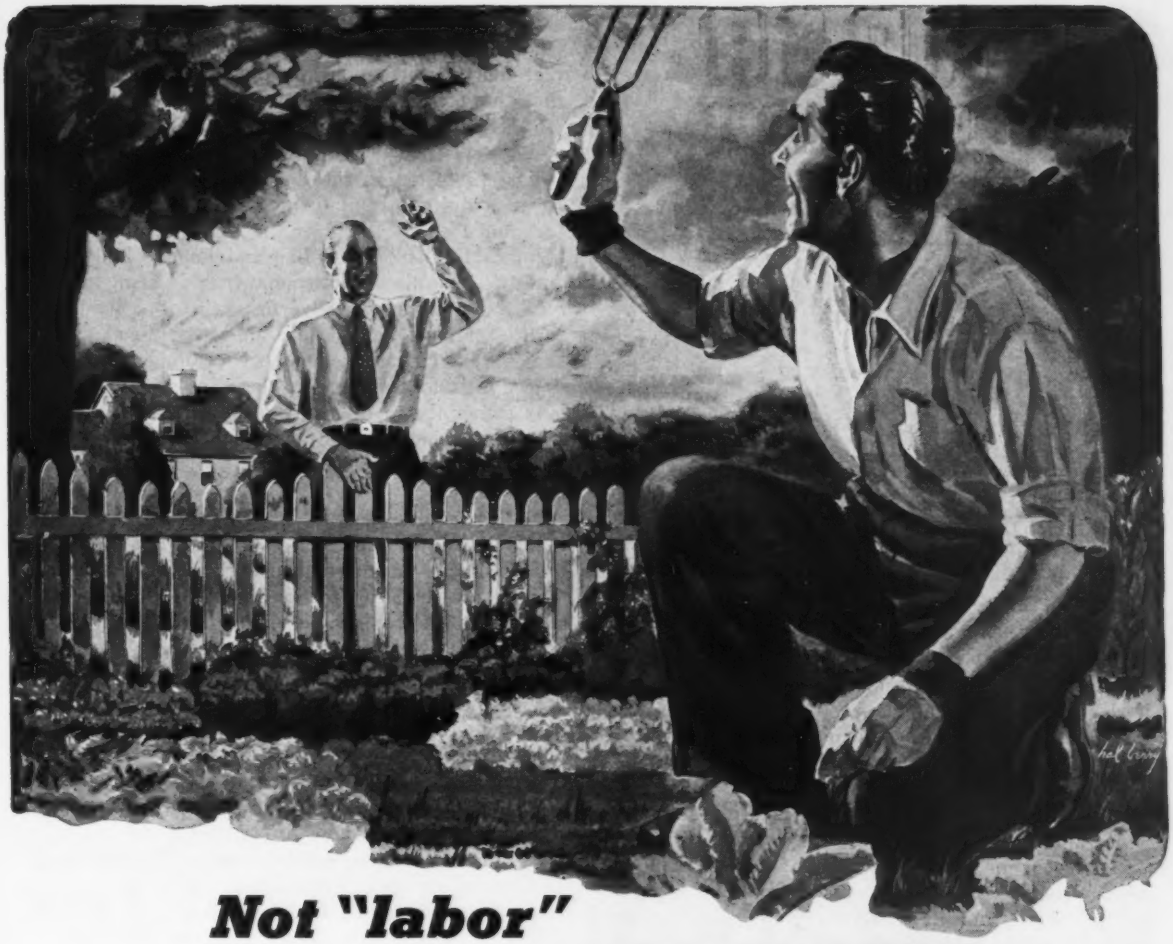
The fibres and semi-chemical pulps are produced from any specie of coniferous and deciduous wood, and the Chemipulper process is especially adapted to the utilization of wood waste, straw, bagasse, and other cellulosic materials.

The Reaction Chamber is made in units and the number of these can be varied according to the degree of treatment required.

High pulp yield with low power consumption.

Bulletin upon request

PAPER and INDUSTRIAL APPLIANCES
Incorporated
122 East 42nd Street, New York, N. Y.



Not "labor" but NEIGHBOR

A small plant in Danvers, Massachusetts, conditioning "burnt-out" bulbs, gave Sylvania Electric its start. Today, this giant of the electrical industry produces a great variety of bulbs, tubes, and electronic controls—with annual sales topping $100,000,000.

"Big business" today, Sylvania management remains definitely small-town-minded. Why? Because Sylvania has proved that *small factories, in small towns, produce better work, attract and hold a high type of worker.* Personnel managers have fewer problems when they are on a "Hi, Bill" basis with employees who are friends and neighbors.

Intangible factors such as "a good place to live" are fully as important as Northern New England's many industrial advantages — excellent water, light, power, and transportation facilities, nearness to foreign and domestic markets. Your plant can have them, too. Simply ask Boston and Maine to find the right location for a plant for you — in Northern New England. Write to E. F. Reed, Manager, Industrial Department, Boston and Maine Railroad, Boston 14, Mass.

BOSTON and MAINE
RAILROAD
"MINUTE MAN SERVICE"

PAPER TRADE JOURNAL

Title Reg. U. S. Pat. Off.

W. L. Cook, Editor

Nature At Work

Nature in the raw is seldom mild—so ran the old cigarette advertising phrase. To which an appropriate footnote might have been added; it's often terrific in its power and in the pressure that it can exert. Perhaps no one is more appreciative of this fact and of the directions in which the forces of nature can be applied than the man whose daily job it is to turn wood into pulp and then into paper. And rarely is that man able to translate his daily experience into terms that make the condition vivid to those who also rely on paper for their living, the men on the selling line.

Nature can provide serious threats to an industry; it also can be kind and favorably disposed. The normal earnings of great companies last Spring were depleted seriously when, with unfavorable conditions, it became impossible to bring wood to the pulp mills. Just the other day a whole town that relies on the paper mill for its entire living was warned that low water levels in its reservoir have reached a point where pressure no longer is satisfactory for fire-fighting purposes, and its residents were asked to be specially careful until the danger is past. The experience of whole sections where woods operations have removed the growing material for the mills is familiar to everyone who ever has spent time in those sections that formerly were heavily wooded. And right here it is that Nature can display its innate kindliness, the inexorable character of its pressure to be of benefit to man if he will but cooperate. It remained for a paper man to put the story into words, as Donald Hardenbrook, vice-president of Union Bag and Paper, explained it recently.

Broadly, he showed his audience, with growing stock built up, with intelligent cutting, and with protection from such hostile forces as fire, insects and disease, the production of wood can be doubled without impairing future needs.

Speaking more intimately as a southern industrialist, and to an audience of southern newspaper men, he paid particular attention to the South for some of his illustrative material. Speaking as a man to whom trees and paper are a daily problem, he also carried a message that has been often told to the paper mill industry, but cannot be too often repeated.

The greatest potential tree farm on earth, he declared, is the 210 million acres of forestland in the eleven states of the South, and the paper industry would no more engage in a cutting program which would eventually destroy its wood supply than a coal mining company would dynamite its mine shafts.

"We can't live without wood, and the rapidly expanding uses of our products makes it imperative that the present supply not only be maintained, but that the forests be made to grow more and more wood to meet the increasing demand of the years and decades ahead," he added.

The first step in the dual job of preserving the forests, and yet capitalizing on them, is to educate the public on the facts of the situation, he told the editors. He cited Union Bag and Paper's long-range forestry educational program which is being carried on through newspaper advertising, informative literature, group meetings where an instructional film is shown, and other methods of communication. Its objective is to crystalize in the mind of the timberland owner the realization that he has an ever growing asset which should be scientifically harvested, nurtured and protected from forest fires, Mr. Hardenbrook stated.

"We have the positive statement of the United States Forest Service that wtih growing stock built up, intelligent cutting, and protection from fire, production of wood in the South can be doubled," he continued. "It requires no mathematical wizardry to imagine what this could mean in revenue—and continuing revenue—for these states."

Mr. Hardenbrook quoted B. F. Grant and A. E. Patterson of the University of Georgia Forestry School who have stated that in the last ten years Georgia's forest area has increased from 21,400,000 to 25,000,000 acres, and that two out of every three acres in Georgia are now forest land.

He said that unfortunately the public has more misinformation than information about the growth of trees and their use. On the average, he declared, only 9 per cent of the wood cut in the nation is for pulpwood; fuelwood is 16 per cent; lumber 49 per cent. And each year forest fires, insects and disease destroy more than the total amount of pulpwood consumed annually by the pulp and paper industry.

Even greater than the forestry problems of state and industry, is the ideological struggle between Democracy and collectivism now engaging the world which looms as a serious threat to both the American system of free enterprise and the Constitutional guarantee of a free press, Mr. Hardenbrook told the editors.

"I believe very passionately in our American enterprise system and its indefatigable defender, the

Calendar of Coming Events

September 20-21, 1946—Annual Meeting, Southern Paper Trade Association. Hotel Buena Vista, Biloxi, Miss.

September 26-28, 1946—TAPPI General Fall Meeting, Hotel Statler, Detroit, Mich.

October 2-4, 1946—TAPPI Engineering Conference, Pfister Hotel, Milwaukee, Wis.

October 17-19, 1946—National Paper Trade Association. Fall Convention, Edgewater Beach Hotel, Chicago, Ill.

American newspaper," he declared. "I believe that it is the solemn obligation of business men to rally to the defense of your institutions because if you go down, all is lost which we hold so dear in our way of life."

Collectivism has a firm foothold in America today, Mr. Hardenbrook declared, not as a controlling political party or systems of government, but in the state of mind of a large portion of the American people.

"It is expressed in their apparent willingness to turn all their troubles over to government," he said. "It is here in the demand for government to step in to solve economic problems, rather than bringing about their solution through tried and true economic means combined with the pressure of an aroused public opinion in behalf of which which is sound.

"I seek in no way to whitewash the occasional shortcomings of private enterprise. It has its faults, without question. But they can and are being cured by wise industrial management and such sound government regulation as is necessary to protect the public interest.

"Our entire tradition is that of opportunity and personal advancement through personal effort. Such is our American background, and such are our American traditions, the like of which have never been known in any other country.

"This story should be told a thousand times in a thousand ways."

Production Ratio Report*

(Production as per cent of six-day capacity)

COMPARATIVE WEEKLY SUMMARIES

Current Weeks—1946		Corresponding Weeks—1945	
July 6	61.1	July 7	47.9
July 13	95.2	July 14	88.5
July 20	102.8	July 21	89.8
July 27	104.7	July 28	93.4
August 3	105.2	August 4	93.6
August 10	*103.4*	August 11	93.0

COMPARATIVE MONTHLY SUMMARIES

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.	Year Avg.
1945	86.7	89.4	90.2	88.1	89.8	91.2	80.8	88.6	90.2	95.9	95.5	91.0	89.7
1946	94.7	98.4	104.4	102.7	100.7	104.6	*94.0*						

COMPARATIVE YEARLY SUMMARIES

	1939	1940	1941	1942	1943	1944	1945	1946
Year to Date	78.7	87.0	94.0	94.2	88.0	87.6	88.1	*99.6*
Year Average	83.4	85.6	97.4	90.4	87.8	88.1	89.7	

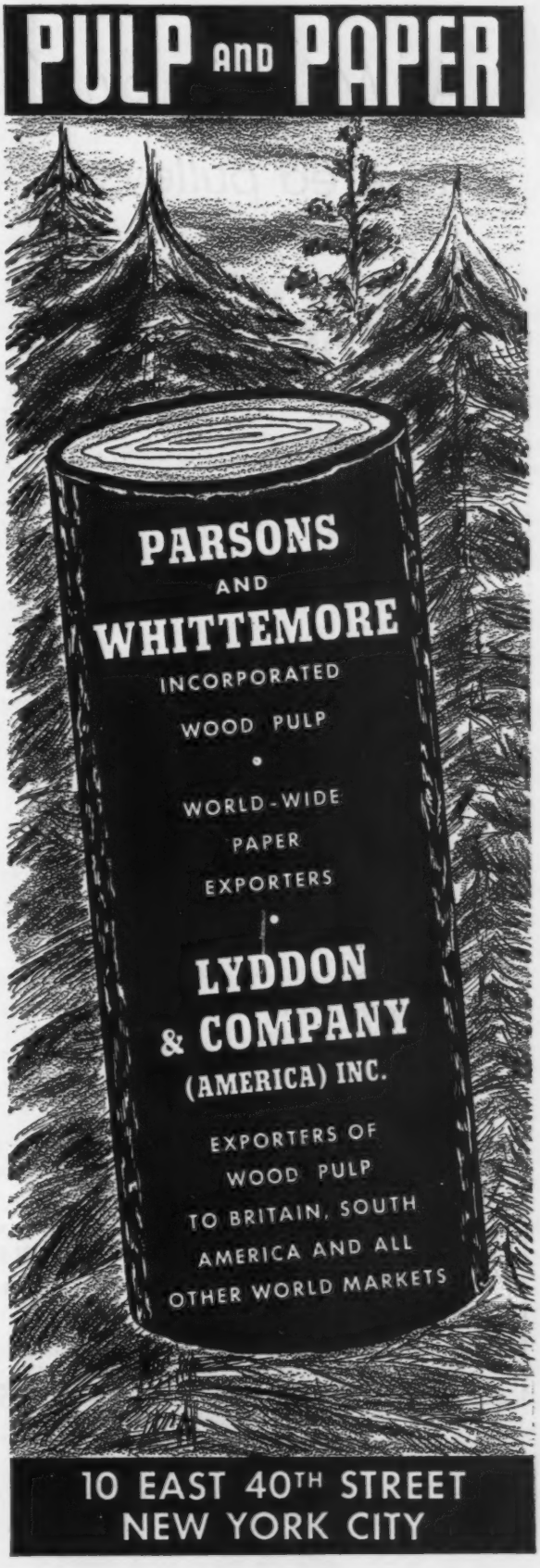
PAPERBOARD OPERATING RATIOS†

Current Weeks—1946		Corresponding Weeks—1945	
July 6	70	July 7	62
July 13	87	July 14	90
July 20	94	July 21	96
July 27	95	July 28	95
August 3	98	August 4	94
August 10	*96*	August 11	94

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.	Year Avg.
1945	91	95	97	97	96	96	86	90	91	97	95	85	93
1946	90	97	100	99	94	97	*89*						

* Based on tonnage reported to American Paper and Pulp Association. Does not include mills reporting to National Paperboard Association, except in isolated cases where both paper and paperboard are produced and separate tonnage figures are not readily available. Does not include mills producing newsprint exclusively.

† Per cents of operation based on "Inch-Hours" reported to the National Paperboard Association.



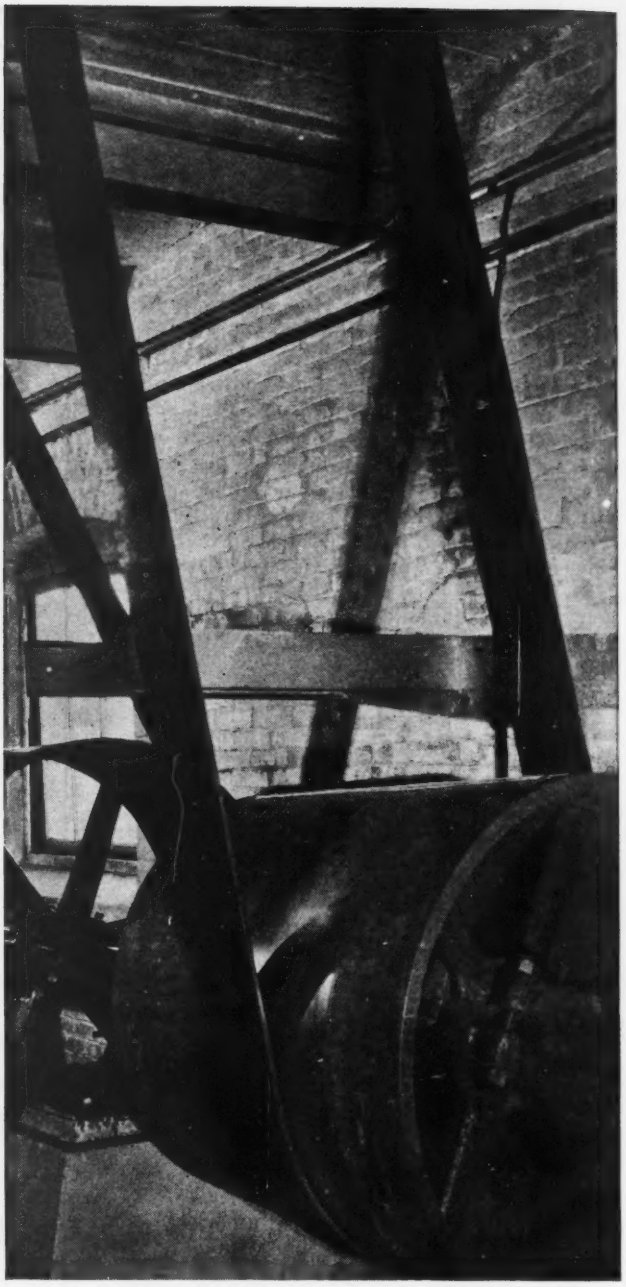
A MUST on tapered pulleys:

FLEXOCONE
(PATENTED)

The peculiar stresses of cone pulley operation place an almost insuperable burden on ordinary belting. FLEXOCONE, a patented leather belt, is scientifically constructed to compensate for these strains. Its flexible patented construction is able to adjust to the diagonal pull of the opposing tapers so that full traction of the belt is realized, thus delivering maximum power.

FLEXOCONE's special 3-ply construction insures that the line of greatest resistance will be applied to the line of greatest stress. This feature prevents slipping and stretching, reduces maintenance costs, results in longer belt life thereby lowering belting cost per ton of paper produced.

May our experienced engineers design belts for your particular drives? Send for Specification Sheets —remember, consultation incurs no obligation.



A close-up view of FLEXOCONE operating from line shaft in an Eastern paper mill

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Section of the
TECHNICAL ASSOCIATION
OF THE PULP & PAPER INDUSTRY
122 E. 42nd St., New York 17, N. Y.
Edited by R. G. Macdonald, Secretary

Patent Reform And The Technical Man*

By W. Houston Kenyon, Jr.[1]

Abstract

Patents are designed to promote the progress of science and useful arts but there is question as to whether the system as currently organized is fulfilling that junction.

Although the independent inventor is still important, the development of organized research by industrial organizations has become a major factor in the field of inventors. This situation has introduced the problem of defensive patents and it has been the function of the company patent lawyer to so classify the production of the research group that it will give the most protection to his companies' interests, present and future.

The filing of claims and the issuance of patents also imposes problems since no recognition is given unless the patent application is brought to completion. This has resulted in patent action being taken on many items which are of doubtful value solely for protection.

The issues are discussed by the author.

The Technical Association of the Pulp and Paper Industry was founded by technically-trained men—engineers, chemists, plant superintendents, managers—and in the years of its growth, and the expansion of its activities, it has become a great and useful organ for the interchange of technical information, the the establishment of uniform methods of testing, the compilation of engineering and operating data, and the holding of meetings to discuss manufacturing developments, relating to the field of pulp and paper.

During the war, members of the association made a signal contribution to the victory of the armed forces. While the fighting lasted it was the author's good fortune to have served as patent advisor to the Army's procurement agencies, and in that capacity he happened to learn of the extraordinary contributions of paper technicians to the art of military packaging when conventional rubber and metal containers were in short supply. These men solved important problems of strength and of resistance to weather, sea water, mildew, and extremes of temperature, in a paper package. Their containers brought the munitions and supplies of war to many a jungle or Arctic battlefront, and it is not too much to say that a good many American boys are living today because the material got to them in usable condition. Enough credit has not been given, to the men who did the imaginative thinking that guided the American war production machine.

The ending of war has not ended the demands upon the ingenuity of these men. War has only served to broaden their horizon. Today the pulp and paper industry is moving into new fields, new uses for pulp and paper, new combinations of pulp and paper products with other products to give composite materials, which present a challenge and supply an opportunity. It is believed that the next decade will see a rate of technical development in the paper industry exceeding that of any decade it has ever known. If the author is right, then many new inventions are likely to appear, and as they appear, they will be patented and new wealth will be created out of the minds of men.

Patents are designed in our economy to promote the progress of science and useful arts. You are the men of science in the useful arts of making and utilizing pulp and paper. If the patent system serves its purpose well, it should bring forth from you new lines of business, induce new investment, create new employment, bring to the consumer better things made from pulp and paper than he ever had before.

Will the patent system serve this purpose efficiently and well in the fields in which you work?

Discussion of Patent System

It is surely no secret to the scientific and engineering profesions that the patent system has been coming in for a lot of discussion in recent years. There are people who believe and have said that the patent system no longer promotes progress but only serves to retard it. There are others who believe that the patent system is working so well that it should be left substantially as it is. A good deal of heat has been generated. You probably know there is a controversy but it is doubted that you are aware of all its details or how the outcome may affect you.

It is proposed to present a little background on this controversy, and to discuss two of the points involved which are of interest and concern to the engineering and technical profesions. If the general purpose of the patent system is to promote the progress of science and useful arts, then surely its purpose is a matter of immediate interest to technical men for it is largely from among their ranks that inventors appear.

In looking at the controversy, the issues can be seen a little more clearly if what the critics and defenders are saying about the patent system and the way it works are in mind. In this way a frame of

* Presented at the Annual Meeting of the Technical Association of the Pulp & Paper Industry, Hotel Commodore, New York, N. Y., Feb. 25-28, 1946.

[1] Counsel, Patent Survey Committee, Department of Commerce.

reference for our guidance is set up. A few selected sentences are quoted from the writings of leading critics, and leading defenders, of the patent system.

In 1938 a lawyer remarked:

"In the past two decades the patent has emerged as the greatest single monopolistic device."

In 1941 there was published a monograph, widely distributed and now somewhat of a classic of its kind, in which an economist stated in detail how he believed the patent system was working. He put it this way:

"An ancient usage cleared the way for the new strategy; the inventor assigned his rights to a corporation."

"The conduct of research became a response to corporate policy."

"As the corporation became master to his profession, the inventor passed into its service . . . he works for a salary, his contract obligates him to sign away his rights . . . He may look ahead, explore, and propose; but it is for the executives to decide how his capacities are to be employed, the lines along which his researches are to extend. His quest after knowledge is strictly subject to business direction."

Thus interpreting the trend of industrial history this writer goes on to say:

"If at the moment 'the patent question' seems monumental, long years of neglect have made it so . . . . It is now much too late for the occasional stitch in time by court and Congress. The problem demands a series of attacks upon a number of levels."

"The plain truth is that a complete revision of the patent system is long overdue."

These statements evoked a series of replies. A lawyer took up the defense:

"The hue and cry that is raised obscures the real issue. To the unwary, it also obscures the real purpose—the impairment and ultimate destruction of the American patent system."

The general patent attorney for a large corporation made reply in his company's house organ:

"Let them [patents] remain as they are and continue their good work of promoting science and the useful arts."

One of the critics, taking up the cudgels again has suggested more recently:

"Those who are familiar with the patent system and with its technical details would do well to set themselves to the task of reform . . . The greatest danger to the American patent system today is the blindness of its friends and not the malevolence of its critics."

All will probably agree that so long as critics and defenders continue to throw verbal broadsides, without coming out of their corners, no settlement is possible, and the danger of unwise and hasty action will contiue.

This, as the author sees it, is the point at which we have arrived today. The advocates of each side have presented their cases with eloquence and zeal. They have shed both heat and light. They have had their day in court. It is now time for summing up; in due course the jury will be asked to gather up the exhibits, review the evidence, and bring in a verdict.

You will form an important part of the jury of public opinion. As scientists, engineers, and inventors it is around your work, and to evoke your achievement, that this system has been erected. On the other hand, you are not quite all the jury, because the patent system exists to benefit every man, every housewife, who wants to buy new things or buy old things at cheaper prices. The consumer too, has a rightful place on the jury and his judgment is required.

The author would like to present the arguments of critics and defenders on two issues which are closely related to your work. In order to bring these arguments out where they can be seen, it is necessary first to have in mind the points on which the adversaries agree.

Creation of Patentable Ideas

Critics and defenders agree that while the independent or garret inventor is, and always will be, a significant contributor to the progress of science and useful arts, the fact is that a large and growing percentage of the industrial and scientific progress comes today from organized research laboratories, where trained men work with modern equipment under skilled supervision. In this setting the inventor may be one or more members of a team. The director of research assigns a problem for study and solution. A number of men attack it. Some make surveys of available literature, others plan experimental programs, others carry out the routine of experimental observation, still others play the more humble roles of model-making and record-keeping. They have access to an accumulated fund of experience, the use of up-to-date testing and measuring equipment, and skilled direction. The author can testify to the speed with which organized research teams turned out new weapons of war, and devised urgently needed countermeasures for new weapons of the enemy. Teamwork in research is one of the techniques on which the industrial power of America rests today.

Critics and defenders of the patent system also agree that organized research teams work in two different kinds of environment. One works under noncommercial auspices. It may be part of a university staff, or an agency of the government, e.g. the Bureau of Standards. The other works under commercial auspices. It may be, for example, the research department of a company engaged primarily in the manufacture and distribution of articles of commerce.

It is when the arguments of critics and defenders into the operation of the patent system are followed as it relates to organized commercial research that it is found they no longer agree. At this point it is necessary to begin to weigh the merits of strongly opposed viewpoints, and seek to find where the real issues lie.

The argument of the critics starts with the assertion that the technical man in a commercial research team is slave to the policy of corporate management. More specifically, the argument is that the patent system puts pressure upon the director of research to avoid authorizing lines of work which will hurt the company's merchandising position. Thus, if the argument is followed through, it states that under modern industrial conditions the very existence of the present patent system tends to limit the fields in which scientific progress is likely to be made.

A question of this kind can only be answered if the facts are known. And the facts in this regard are much better supplied by technical men than by any assemblage of patent lawyers. Personally the author does not know what the facts are. Technical men, directors of research, engineers, chemists, do know the facts. It would be illuminating and helpful if they would bring them forward so that the whole jury can see and understand them.

Role of Patent Lawyer

The argument which is being traced then takes a second step. It goes on to say that, whether or not the patent system exercises an influence limiting the activities of a research department, at least it exercises an influence on the patent department, causing the latter to seek protection more for the purpose of destroying competitors than of protecting the company's own business. This part of the argument maintains that corporate patent departments have their eyes fixed too much upon securing the company's trade position and too little upon protecting the accomplishments of the research department.

The jury's acceptance of this part of the argument, again, must rest on the facts and evidence which support it. The critics say they have such evidence, and they have produced a document which turned up in the files of a well-known company in a recent court trial. The company in question is the principal developer and distributor in this country of a certain line of heavy machinery. It owns about 600 patents relating generally to its field of business. It came out at the trial that the secretary and general counsel of the company had prepared for the management a so-called "Memorandum of Policy" from which a few sentences are quoted:

"We now have a number of applications which were filed to definitely forestall the development of competing machines by others.

" 'Direct patent protection' means those patent applications which read directly upon or cover our devices . . . or proposed physical improvements thereon.

" 'Indirect patent protection' of a device includes those applications which prevent the use or improvement of an existent or possible alternate for the device. Thus 'indirect protection' seeks to block competing devices which would lessen our income.

"Of the 223 cases filed in the three years 1927, 1928 and 1929, 200 are direct or indirect protection to the devices mentioned above; 88 applications being 'direct protection' and 112 'indirect protection.' "

If this is a correct statement of the facts—and it was prepared by the company's secretary and general counsel for the guidance of the management in certain pending negotiations with another conmpany—it would appear that, during a 3-year period, at least half of all the applications filed by the company's patent department were for the purpose of forestalling the development of competing machines by others, or of blocking competing devices which would lessen the company's income, and not for the purpose of protecting the machines the company was using or proposed to use. This is made clear by the concluding paragraphs of the same memorandum:

"In taking out patents we have three main purposes—

"(a) to cover the actual machines which we are putting out and prevent duplication of them . . .

"(b) to block the development of machines which might be constructed by others for the same purpose as our machines, using alternative means,

"(c) to secure patents on possible improvements of competing machines, so as to 'fence in' those and prevent their reaching an improved stage."

The defenders of the patent system, in order to meet this evidence, answer in the first place that this is but a single isolated occurrence, and in the second place they suggest that there is nothing wrong with the practice because the competitors had an equal chance to figure out improvements on their own machines and, if they failed, they are in no position to complain.

The critics, coming back in reply, say that, while few men would be so naive as to put a policy like this down in writing, it is the kind of thing which the competitive struggle must inevitably produce from time to time and is therefore to be regarded as typical of certain types of corporate management. On the second point, the critics say that the competitors do not have an equal chance to anticipate improvements in their own machines, for the company in which the memorandum was written possesses the leading research group in the field and by reason of that fact alone has such a long head start on every competitor as to make the chances quite unequal. Thus they conclude that an organized research team, plus the patent system, adds up to a self-perpetuating affair which stifles competition in research.

Here is one of the issues that you, and the rest of the jury, will be asked to ponder. Are the points of argument well taken? Does the evidence warant the conclusions drawn from it?

If the jury should conclude that the critics have made out a case on this point, the jury will then be asked to consider reasonable measures of correction and improvement. This is perhaps a more difficult question, for if on the one hand the jury should wish to put it beyond the power of the average patent department to fence or block competitors, yet on the other hand the jury may very well not want to weaken the incentives which the patent system affords to new enterprise. Between Scylla and Charybdis, the jury must steer a careful course, lest in striking down what it finds undesirable it will injury what it wants to retain.

Proposed Changes in Patent System

The critics advance three possible ways to steer this course, each as an alternative to the others—

First, they propose that every patent, good, bad, and indifferent, whether owned by individuals, or by small or big corporations, shall be "available for use by anyone who may desire its use and who is willing to pay a fair price for the privilege." This is the proposal of general compulsory licensing applicable without discrimination to all patents alike.

Second, they propose that where a court decides that a particular patent has been used or nonused for the purpose of unreasonably limiting the supply of any article of commerce, that patent shall be declared null and void. This is the proposal of forfeiture of specific patents found to have been abused.

Third, they propose that, when a court decides that the invention of a particular patent is not being developed on a reasonable scale commensurate with its practical importance, then an infringer shall not be put out of busines by injunction but shall be permitted to continue if he pays fair compensation for the use of the invention and the research which led up to it. This is the proposal of limited compulsory licensing for specific patents found to have been abused.

Other courses may be suggested, but when the jury reaches the point of framing its verdict it will probably find itself considering some such proposals as the ones summarized.

The author would like to turn now to another point involved in the controversy between critics and defenders of the patent system which concerns the work of commercial research organizations.

A commercial research organization is normally en-

gaged in seeking ways and means to improve what the company sells, or to make it more cheaply, or to find new things to sell.

Filing Claims

In the work of any organization of this kind that is on its toes, there will be a flood of new ideas. While it is sometimes hard for the patent department to tell in a given case whether a new idea possesses pioneer characteristics, it is possible for the patent people to set up a rough classification that will divide the new ideas according to apparent inventive merit.

To illustrate from something that came under the author's observation. During the war, the Army and Navy maintained a patent department at Cambridge to handle the inventive output of the great electronic laboratories of M. I. T. and Harvard. While the patents all belonged to the United States, the job of this armed service patent department was almost exactly the same as the job of any corporate patent department. The officers in charge set up what they called an "A Docket," a "B Docket" and a "C Docket." To the A docket they assigned those relatively few developments coming out of the laboratories which appeared to have major significance; to the C docket they assigned what they called the gadgets; and every item which was neither one nor the the other, or which looked as if it might be good if it were followed by something else, they put in the B docket. Then they spread their thin manpower in such a way as to keep the A docket always up-to-date; to keep as far abreast of the B docket as they could; and only when opportunity afforded did they file patent applications on a few cases in the C docket.

The problem which these patent attorneys in uniform faced at Cambridge has many points of resemblance to that which is put up every day to corporate patent officials. The particular point of resemblance it is desired to stress is that the patent attorney can never be sure what ideas from the research people will become important and fundamental in the future development of the art. The patent department of most corporations has no doubts what it should do with cases on the A docket, but the trouble begins with the B docket. Patent people are forever plagued by their B docket, and if they are cautious they will always be moving up doubtful cases out of the C docket into the B docket.

Look for a moment at the pressures which force patent people to file applications on all the ideas in the B docket, and maybe a good many in the C docket too. There are two reasons why they do this.

In the first place, there is always the outside chance that the idea will turn out to be basic to a future line of development, and the patent man will go out in disgrace if he bets the wrong way.

In the second place, even though he is sure the idea will never be basic, he is driven by one of the principles of the patent law to try to get some kind of a patent, even a narrow and useless one, for the sake of its defensive value.

The principle of the patent laws to which reference is made is the rule that an abandoned application will not defeat a subsequent patent. To give an illustration, in 1936 the research department of a company making tin cans suggests that a flattening of the usual cylindrical can, so as to make it oval, would facilitate packaging. The patent department is very doubtful whether so simple an idea is a patentable invention. Out of caution they file an application, and the Examiner cites earlier patents showing square cans which package beautifully. The patent department is in trouble. In 1937 they decide to abandon the application. In 1939 the company executives decide to feature a line of oval cans. In 1940 a patent for an oval can is granted to a competitor, filed in 1938, and a law-suit follows. Now in this law-suit the company's own application, filed in 1936 and abandoned in 1937, is no defense. It is a rule of the patent law that the first man who brings an invention to completion is the first inventor. An abandoned application does not bring an invention to completion. It was the other fellow, who filed in 1938 and stuck to his guns till he got a patent in 1940, who is entitled to be regarded as the first inventor. Of course, the whole idea may be thrown out as no invention, but non-invention is an expensive defense whereas priority would have been a cheap defense. So the patent department bet wrong when they abandoned their application in 1937 and they must take the rap for all the troublesome and expensive consequences.

The possibility that this kind of situation will arise dominates the thinking of most patent departments. It seems to require filing on every idea in the B docket, and maybe lots of ideas in the C docket, too. It puts a tremendous pressure on patent people to go on fighting for a patent when an application looks all but hopeless, and to rest content with the allowance of narrow claims of no commercial value simply to get a patent which will establish priority from the date of filing.

The critics of the patent system say that the Patent Office is overburdened and understaffed and that too many patents issue for things which should never have been called inventions. The defenders agree, at least to the extent that Examiners should be more numerous and better paid.

Should not the jury look at the question of defensive patents? If people want defensive protection and are willing to go through all the grief of prolonged Patent Office procedure, sometimes being content with narrow claims of no real significance, simply to obtain the benefit of their filing date, can not the benefit of the filing date be given without giving a patent?

It would relieve the Patent Office of a great deal of unnecessary pressure; it would raise the level of workmanship in the office by letting the Examiners concentrate their attention on more important work; it would give to the patents that do issue a better chance of survival in court; and it would take an anxious burden of responsibility from the shoulders of patent people who, like all humans, hate to have fears of an unknown future force them into positions that look untenable.

If the jury should conclude that the facts warrant some alteration in the patent laws in this respect, they will then be asked to consider what scheme would be best. There have been three atternative suggestions—

First, it has been proposed that abandoned applications shall, if the Examiner thinks them suitable for publication, be published just as patents are published and, like patents, shall be effective against future inventors from the date on which they were filed, or from the date on which they were abandoned.

Second, it has been proposed that anyone shall have the right to send to the Patent Office an ordinary description of some practical idea, without need to have the help of a patent lawyer in drawing it up, and if the Examiner says it meets certain minimum requirments for publication, it will be promptly pub-

lished at government expense and will be effective against future inventors either from the date of filing or of publication.

Third, it has been proposed to establish a class of petty or so-called minor patents which would, like other patents, give defensive protection from the filing date, but unlike other patents would give limited or reduced future protection, either by a requirement that they run for only five years or some other shortened period, or that they be denied access to the doctrine of equivalents in infringement litigation, or that they be subject to compulsory licensing during their life.

Each of these suggestions calls for careful thought. The problem of defensive patents stems directly from the existence of commercial research organizations, and because of that fact you constitute the portion of the jury which will no doubt want to consider the matter with special care.

Last summer there was created in the Department of Commerce a committee to consider the questions, among others, mentioned in this paper. This committee, known as the Patent Survey Committee, was formed at the direction of President Truman to suggest wise and reasonable answers to the questions raised regarding the patent system. In due course, the author expects proposals regarding the patent system will be laid before you and the rest of the public for consideration and support. In time these proposals may be embodied in bills introduced in Congress. The author doubts very much that these bills will impair or destroy the American patent system; he hopes they will strengthen it.

When those bills reach the stage of hearings, it is urged that they be given careful attention. If they appear to be reasonable and proper, it is hoped that they will be given active support. If they seem to be deficient or dangerous, it is hoped the manner in which they could be improved will be pointed out.

Men of science and technology, no less than patent lawyers and business men, will be affected by what is done. None of them can afford to ignore the issues presented, nor to adopt an attitude of mere passive resistance to change. Far better and more healthy it would be if those who are familiar with its operation would come forward as leaders in helping to improve and vitalize the patent system—a system which has brought distinguishing vigor to our system of free enterprise, and has made life more comfortable, healthy and worth living for every American citizen.

TAPPI Notes

P. Andrew Jackson, formerly of the Erving Paper Mills, is now engineer in the manufacturing department of Pusey & Jones, Wilmington, Del.

Harry J. Stilip, formerly of the United Wallpaper Factories, Inc., is now with the Clopay Corporation, Cincinnati, Ohio.

O. F. Hutchinson has returned from the Army to Bulkley, Dunton Pulp Company, 295 Madison Ave., New York 17, N. Y.

Russell T. Mills of the Peroxygen Products Development Department of E. I. du Pont de Nemours has been transferred from Niagara Falls, N. Y., to 7 So. Dearborn Street, Chicago, Ill.

Lt. Col. B. E. Lauer, formerly of the Army is now Professor of Chemical Engineering, University of Colorado, Boulder, Colo.

The Bibliography of Papermaking (1936-1945) is available to members of the Technical Association without charge. To nonmembers the price is $10.00. This book will probably be issued in November. Requests for copies are still being received and are acceptable at the office of the Technical Association.

William E. Connolly, formerly of the Johns-Manville Research Laboratory is now with Paper & Industrial Appliances, Inc., 122 East 42nd Street, New York 17, N. Y.

O. Walter Rodowski, formerly of the Ward Paper Company, is now technical director for Cia Ind. de Atenquique, S. A., Guadalajara, Jalisco, Mexico.

Edward T. Street is now president of the Downingtown Mfg. Company.

George E. Martin, formerly of the Navy, is now a student at the Institute of Paper Chemistry, Appleton, Wis.

John D. Rue of the Hooker Electrochemical Company, is now works manager, Box 1646, Tacoma, Wash.

Ladislaw J. Rys is now general manager of the United Slovak Pulp and Paper Mills, Harmanec, Slovakia, C. S. R.

Robert Nivison is now vice president of Hollingsworth & Whitney Company, Waterville, Maine.

Superintendents and TAPPI to Meet at Bolton's Landing

The New York-Canadian Division of the Superintendents Association will meet jointly with the TAPPI Empire State Section at the Sagamore Hotel, Bolton's Landing, Lake George, N.Y., on September 12-14 inclusive.

Thursday, Sept. 12 at 10:00 p.m. Pre-Convention Get-Together Party Friday, Sept. 13.

10:30 a.m. "Industrial Relations in the Paper and Pulp Industry" by Glenn Amos, Secretary, Industrial Relations Committee, American Paper and Pulp Association.

1:30 p.m. "Economic Condition of the Pulp and Paper Industry in New York State" by M. P. Catherwood, State Department of Commerce, Albany, N. Y.
"Enlarged Industrial Program of the New York State College of Forestry" by Dean Joseph S. Illick, Syracuse, N.Y.
"Empire State Paper Research Organization" by A. W. Nickerson, Business Manager of the Empire State Paper Research Organization.

7:30 p.m. Banquet
Speaker—Arthur P. Irving, President of the Glens Falls Publishing Company.

Saturday, Sept. 14.

10:30 a.m. "Future Contributions of the Forests for the Pulp and Paper Industry" by Nelson C. Brown, Head, Department of Utilization, New York State College of Forestry, Seymour, N. Y.

2:00 p.m. Golf, Swimming, Trap Shooting, Lake Cruise, Speed Boat Rides, and Ladies Program.

7:00 p.m. Dinner and Dance
Address by Capt. Richard M. Watt, USN. (Capt. Watt had charge of expediting the Navy war program).

C. Ives Gehring of the Oswego Falls Corporation, Fulton, N. Y., is Chairman of the New York-Canadian Division. The general committee in charge of the meeting consists of Joseph MacLaren, Gus. Holm, Earl Osterheldt, Wm. Campbell, and Frank McBrearity.

Paper Mill Operating Efficiencies*

By Harold H. Brown[1]

Abstract

To indicate the relationship between cost of labor and mill production, the use of an efficiency factor is proposed. This factor is obtained by dividing the value of the product of a mill per inch per hour by the labor cost per inch per hour.

Data are given on a number of mills making a variety of products as well as on a group of manufacturers producing the same product.

It is not claimed that a complete study of operational efficiency is obtained but that it does present data on a unit basis common to all mills.

The production of a paper mill is usually considered in terms of tons or pounds per day. However, the mill owner thinks of his production more in terms of costs, how much he makes per ton or per day, and what factors affect this cost and profit, which are only other ways of evaluating the efficiency of operations. Costs are broken down into such things as the cost of raw materials, labor, power, overhead, etc., each one affecting the total cost. These figures have been assembled under code numbers to give some idea of comparative costs in various mills manufacturing the same type of paper. But these do not always give what the mill owner or manager would like to know about how his mill compares with his competitors in any particular branch of costs.

In seeking to find some relation between the cost of labor and mill production between various mills in a district, use has been made of labor rates in these mills as against machine widths and production data as given in Lockwood's Directory. An attempt has been made to reach some common denominator as mills vary so much in size and in types of product. Labor is paid on an hourly basis, a machine will produce a certain amount per hour, and this product has a certain value per pound. These factors are common to all mills and it was believed that they should offer some basis of comparison.

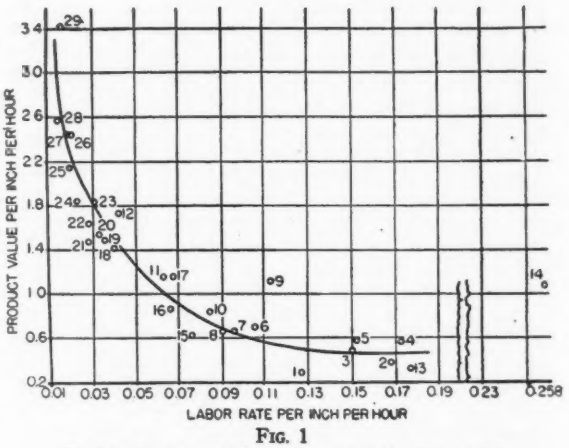

FIG. 1

Numbers Designate Mills as Given in Tables II and III

Efficiency Factor

Machine widths and speeds are a variable but production on an inch width per hour should be a fair basis of comparison. If this basis is taken along with the rate paid any type of employee, say a machine tender, and the value of the product of the mill calculated some interesting figures are obtained. Such comparisons have been made on 27 different mills and have been correlated in Table I.

There are eight columns of figures: column 1 is the reference number of the mill, column 2 the total width of all machines in the mill, column 3 the production of the mill on a per inch per hour basis, column 4 the hourly rate paid the machine tender, column 5 the machine tender's rate on a per inch per hour basis, column 6 the estimated value of the product made on a pound basis, column 7 the value of the product on a per inch per hour basis, and column 8 which has been termed efficiency factor.

This factor is obtained by dividing the value of the product of the mill per inch per hour by the machine tender's rate per inch per hour. This gives a basis of comparison of the efficiency of different mills from the standpoint of the value of the product in relation to the dollar paid labor. It is both a measure of the efficiency of labor, of management, and of the mill.

The table has been arranged on the basis of the increasing value of the efficiency factor and bears no relation to the type of mill or the product made. Included in this list of mills are those which make light weights, specialties, kraft, boxboard, and groundwood papers. It will be noted that prices vary considerably, from 0.03 to 0.25 cents per pound and there would seem to be no direct relation between these and the increasing factor. Production per inch per hour seems to increase with the factor but there are many discrepancies, such as mills 4, 11 and 14. Then, too, the production rate as between mill 2 and mill 27 is

* Presented at the Annual Meeting of the Technical Association of the Pulp & Paper Industry, Hotel Commodore, New York, N. Y., Feb. 25-28, 1946.

[1] Member TAPPI; Consulting Chem. Eng., New York, N. Y.

TABLE I

Mill	Machine Width, in.	Production per Inch per Hour, lb.	Machine Tender Rate Per Hour, $	Machine Tender Rate Per Inch per Hour, $	Product Value, $	Product Value per Inch per Hour, $	Efficiency Factor *
1	332	2.8	0.76	0.3166	0.1184	0.2842	0.897
2	370	6.8	1.04	0.153	0.075	0.510	3.33
3	619	11.8	1.03	0.0873	0.055	0.649	7.43
4	898	10.2	1.10	0.1078	0.08	0.616	7.57
5	160	13.0	1.015	0.078	0.05	0.65	8.33
6	154	13.0	0.945	0.0727	0.06	0.78	10.73
7	496	16.8	1.29	0.0768	0.05	0.84	10.92
8	148	13.0	0.95	0.0727	0.06	0.846	12.60
9	86	17.4	0.99	0.0682	0.07	1.015	14.88
10	699	22.4	1.32	0.0591	0.04	0.896	15.16
11	157	10.6	1.04	0.0981	0.15	1.59	16.23
12	264	23.7	1.21	0.0512	0.045	1.07	20.83
13	220	22.7	1.08	0.0476	0.045	1.022	21.47
14	322	11.0	1.27	0.1155	0.25	2.75	23.81
15	1032	28.2	1.24	0.0441	0.045	1.269	28.77
16	110	26.5	0.96	0.0362	0.045	1.193	32.96
17	90	27.8	0.90	0.0324	0.05	1.39	42.90
18	102	28.6	1.13	0.0395	0.0625	1.79	45.25
19	175	38.1	1.06	0.0277	0.0375	1.429	51.59
20	353	47.2	1.27	0.0269	0.037	1.736	64.46
21	72	46.3	0.88	0.0190	0.035	1.621	85.31
22	134	43.5	1.26	0.029	0.0575	2.50	86.25
23	78	74.8	1.09	0.0147	0.03	2.244	152.65
24	90	74.1	1.07	0.0144	0.0375	2.779	192.98
25	168	74.5	1.48	0.0198	0.055	4.10	206.94
26	250	83.3	1.24	0.0149	0.0375	3.124	209.66
27	120	90.2	1.12	0.0124	0.0375	3.383	272.82

* This factor is obtained by dividing the value of the product of the mill per inch per hour by the machine tender rate per inch per hour.

not as great as is the efficiency factor, the production rate for mill 27 being approximately thirteen and a quarter times that of mill 2, while the factor is 82 times as much even though the price received by mill 2 is twice that received by mill 27.

Comparison on Grade Basis

It might not seem fair to compare different types of mills in this way. Consequently information was sought on mills in different parts of the country making somewhat similar products, such as mills making light weight papers and those making kraft. Also it was felt that perhaps a fairer basis of comparison should be the average hourly rate paid all labor. These figures for mills making light weight papers are shown in Table II and those making kraft in Table III.

In both of these the same relative differences are seen. In both there seems to be a continuing increase in the rate of production with the increasing efficiency factor but not proportionately. The increase in rate of production with increase in the value of the factor is not quite as consistent in the kraft mills as in those making light weights. Here the difference in production rate between mill 1 and mill 12 is about three and a third times while the difference in the efficiency factor is nearly twenty times, while in the case of the kraft mills there is a difference in rate of production between mill 13 and mill 29 of eleven times and the factor for mill 29 is more than a hundred times that for mill 13.

TABLE II

Mill	Machine Width, in.	Production per Inch per Hour, lb.	Labor Rate: Average per Hour, $	Labor Rate: Per Inch per Hour, $	Product Value, $	Product Value per Inch per Hour, $	Efficiency Factor *
1	469	6.8	0.872	0.128	0.0401	0.273	2.13
2	94	4.8	0.808	0.168	0.0805	0.386	2.30
3	84	5.1	0.766	0.150	0.0921	0.470	3.13
4	84	5.4	0.928	0.172	0.1059	0.572	3.33
5	525	5.3	0.808	0.152	0.1094	0.580	3.82
6	988	8.5	0.894	0.105	0.0816	0.694	6.61
7	196	11.2	1.088	0.097	0.0592	0.663	6.84
8	266	12.6	1.134	0.090	0.0520	0.663	7.34
9	171	10.9	1.228	0.113	0.1014	1.105	9.78
10	264	10.9	0.902	0.083	0.0753	0.840	9.89
11	370	14.9	0.941	0.063	0.0787	1.173	18.62
12	678	22.9	0.939	0.042	0.0764	1.727	41.12

* This factor is obtained by dividing the value of the product of the mill per inch per hour by the labor rate per inch per hour.

Four mills occur in both Tables I and III, thereby giving an interesting comparison of the effect of the rate of one type of employee as against the average rate for all employees. These efficiency factors for these mills are

Mill	Efficiency Factor: Based on Machine Tender Rate	Efficiency Factor: Based on Average Labor Rate
1	10.73	8.20
2	45.25	60.25
3	86.25	128.6
4	206.94	212.2

While there is a difference in the actual figures, the factors are of the same general and relative magnitude. Number 3 might be considered an exception, but this is caused by a high machine tender rate, which pulls down the factor and a large quota of unskilled labor which lowers the average labor rate and boosts the value of the efficiency factor.

If the figures used in obtaining the efficiency factor —(see Fig. 1) the product value per inch per hour and the labor rate per inch per hour—are used as ordinate and abscissa an interesting curve is obtained. Here is shown the effect of increased production on the cost of labor relative to what it produces and the value of that product. As production increases labor cost decreases and the value of the product relative to labor cost increases. It will be noted that most of the light weight mills (1-12) have a higher relative labor rate and lower product value than most of the kraft mills (13-29).

A natural reaction to these figures is to wonder why such a difference in the value of the efficiency factor. What influences this value? There are primarily three figures which influence it: first, the production per inch per hour; second, the price for which the product is sold; and third, the rate paid labor. As the factor is obtained by dividing the product value (per inch per hour) by the labor rate (per inch per hour) then this result, the efficiency factor, is actually the dollar value produced by labor with the tools available for the dollar received. This then gives a new measure of the efficiency of the mill and of the equipment of the mill along with the efficiency of the labor on a unit basis. Also it can be considered to be a measure of the efficiency of the management as reflected in getting most out of the equipment available and in making a product that brings the highest possible value, which means the efficiency of the sales policy.

This cannot be considered a full reflection of costs as many elements are not included. The only actual out of pocket cost considered is the rate paid labor and such costs as raw materials, power, overhead, capital investment, interest charges, depreciation, and total labor, which are included in the overall picture are not included here. Consideration of these on a similar unit basis might develop some very interesting comparative figures.

While no claim is made that this gives a complete picture of operations in different mills it does give the management a new measure of plant efficiency, a measure of what the mill is doing on a production and labor dollar basis. It is a different approach to costs putting them on a unit basis and one that is similar in all mills. It gives a new idea of the value of labor indicating why some mills do not make money even though they pay a relatively low wage rate and why others do make money on a relatively higher wage rate. It is a partial answer to why some mills are more profitable than others. It can be used to show to management some things or give some ideas of what things they can do to improve the position of their mills.

TABLE III

Mill	Machine Width, in.	Production per Inch per Hour, lb.	Labor Rate: Average per Hour, $	Labor Rate: Per Inch per Hour, $	Product Value, $	Product Value per Inch per Hour, $	Efficiency Factor *
13	260	5.2	0.921	0.1771	0.0567	0.295	1.7
14	418	3.9	1.008	0.2584	0.2768	1.080	4.2
15	154	11.1	0.847	0.0763	0.0563	0.625	8.2
16	508	13.2	0.870	0.0659	0.0647	0.854	13.0
17	183	14.5	0.982	0.0677	0.0800	1.160	17.1
18	856	19.6	0.786	0.0401	0.0719	1.409	35.1
19	284	25.4	0.897	0.0353	0.0588	1.494	42.3
20	356	28.2	0.915	0.0324	0.0544	1.534	47.3
21	520	31.3	0.894	0.0286	0.0470	1.471	51.4
22	163	28.0	0.781	0.0279	0.0585	1.638	58.7
23	102	28.9	0.877	0.0303	0.0634	1.832	60.5
24	244	32.6	0.769	0.0236	0.0556	1.813	76.8
25	381	56.4	1.192	0.0211	0.0378	2.132	101.0
26	308	50.3	1.017	0.0202	0.0506	2.545	126.0
27	134	44.3	0.879	0.0198	0.0575	2.547	128.6
28	936	72.0	1.053	0.0146	0.0358	2.578	176.6
29	168	58.9	0.948	0.0161	0.0580	3.416	212.2

* This factor is obtained by dividing the value of the product of the mill per inch per hour by the labor rate per inch per hour.

Sulphite Pulping and Pulps*

By S. E. Ekman[1]

Abstract

The need for a better understanding of quality differences between various sulphite pulps is stated.

Analyses of pulp characteristics, as dependent on variation in processing features, are suggested; also, that such analyses consider the influence of changes in one process feature as they affect results from other process features.

Pulps are described as heterogeneous masses of fiber particles which by their character and distribution determine the overall properties of the fiber mass.

The importance of quality of wood used in pulp manufacture is mentioned and also the need for a better knowledge of wood properties.

Price or cost is stressed as a pulp characteristic of importance to the technical man and worthy of his study in its relationship to the various other characteristics of a pulp which might determine its usefulness to the customer.

Possibilities for a more rational classification of pulps is suggested for consideration.

Mention is made of the need for solutions of waste liquor problems to secure better process economy as well as the removal of such wastes from our lakes and streams.

Uses of other bases, now being tried, are mentioned as encouraging signs in the further development of the sulphite pulp industry.

When sulphite pulp was first introduced to the European paper trade, its manufacturer found it necessary to publish a pamphlet describing the characteristics and uses of this new fiber raw material.

Sulphite pulp was at that time a type of pulp produced by an exclusive, secret process in one plant according to some standard recipe guaranteeing a product of reasonably uniform characteristics.

As produced at present, sulphite pulps cannot be described by simply alluding to the fundamental process used for their manufacture, consequently, a study of sulphite pulp properties should be of as much interest as when the industry first brought its product into the market.

The original methods have been modified as to composition of chemicals used and reaction schedules, changes and improvements in equipment have been made, and auxiliary processes have been added.

The final product can no longer be described with much definiteness by using the simple term "sulphite pulp." As a matter of fact terms are lacking to satisfactorily describe any cellulose fiber pulp in a manner which will give the customer a definite conception of its inherent usefulness for his purpose.

In a general way sulphite pulps might be described as those cellulose fiber masses which are produced by digesting wood with liquids whose main component is sulphurous acid, tempered or modified by some base such as lime, magnesia, or other suitable chemical.

Within this group are also included pulps produced according to above mentioned procedure which have been purified by such additional processes as chlorination, oxydizing bleaches, caustic extractions, or other processes.

In describing a pulp, it has been found practical to consider the following:

1. price or cost, 2. fiber properties and origin, 3. chemical purity, 4. color of a composite fiber mass, 5. strength properties displayed by felted fibers when formed into sheets similar to those made by the papermaker, 6. speed of hydration as indicated by properties of sheets produced from pulps subjected to beating treatments similar to those applied by the papermaker, 7. cleanliness, 8. pitch precipitation, and 9. bleach consumption.

How are these properties affected by the characteristics of the sources of fiber and the modes of manufacture?

The knowledge of the fiber raw materials as found in nature is as yet quite limited and much of the knowledge of the effects of the various means which are applied in the pulping process is still to a large extent experience data carried by practical operators and interpreted by them in various ways.

Wood

The starting point in the manufacture of wood pulp is the forest with its fiber bearing trees.

In separating the fiber from the associate substances which accompany it in wood, it is necessary to employ means which might be destructive to the cellulose fiber as well as to the undesirable substances which it is desirable to remove. Chemicals, heat and mechanical force all tend to attack the fiber in one way or another.

The isolation of fiber particles rather than cellulose substance being the aim of all endeavors, the forms and sizes of the fibers as well as their distribution in the wood material and in the resultant pulp is of great importance.

A tree is neither uniform as to the size of its fibers nor is it uniform as to density and chemical composition throughout, even when of the same species.

Growth conditions affect the pulping properties of the tree and a careful study of the characteristics of wood for pulping with special attention paid to the influence of growth condition might be found of great assistance to the pulpmaker.

Selection of the proper species of wood is in most cases of major importance, but in some cases considerable latitude can be allowed in the selection of sources for the fiber and mixed wood can be used.

Wood Storage

The pulpmaker usually starts his particular work by storing the wood material received.

Wood, being susceptible to change in storage, will modify its characteristics with time because of conditions of such storage. Some changes such as conversion of resinous substances to forms easily handled by the processing are desirable; other changes

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* Presented at the Annual Meeting of the Technical Association of the Pulp & Paper Industry, Hotel Commodore, New York, N. Y., Feb. 25-28, 1946.

[1] Member TAPPI; Sulphite Supt., Rhinelander Paper Co., Rhinelander, Wis.

such as excess drying and shrinkage and rotting might be anything but desirable.

Proper care of wood in storage is important.

Wood Room

In the preparation of wood for the digestion process much diversity of practice is found because of local conditions as well as specific characteristics found in the wood material or desired in the finished pulp.

Complete removal of wood dirt not being practically possible of attainment in the wood cleaning department, it is necessary to consider how much wood dirt must be removed at this point and what amount might be expected to be sufficiently removed by subsequent processing, such as cooking, screening, and bleaching.

The amount of wood dirt per unit volume of wood is an important item and controls to a great extent the degree of cleanliness which can be economically imparted to the finished pulp.

Chipping is another wood preparation operation of great importance. It has lately been the subject of considerable study. Chip size and its influence on penetration by the cooking acid as well as injury to the wood material by crushing in the chipping operation have been studied. Modern chippers have been installed in many plants to improve the quality of chips as well as to increase economy in the chipping operation by allowing longer pulpwood sticks to be used.

Effects of the wood preparation procedure are felt throughout most of the process and might be particularly watched for in their influence on the cost and strength, and cleanliness characteristics of the resultant pulp.

Digester Room

The cooking process is, of course, the heart of the process. This part of the pulping procedure affects all pulp characteristics mentioned earlier in this paper.

Considering equipment used the author finds it practical to give only four major arrangements at this time. Vessels might be used which allow:

1. Direct admission of steam and equalization by convection, 2. direct admission of steam and equalization by forced circulation of liquors, 3. indirect heating of liquors and equalization by convection, and 4. indirect heating of liquors and equalization by forced circulation.

They all have their advantages and disadvantages and which arrangement to use depends on pulp characteristics desired with the price or cost of the pulp quite prominent in the consideration.

When the pulping reaction and operating details are considered a great variety of possibilities are found to be available and affect pulp properties in various ways.

It is necessary to consider:

1. Character of wood material as to species, growth conditions, change of properties in storage and cleaning;

2. Chip size and its uniformity as affecting penetration by liquids;

3. Temperature of acid as it affects penetration and heat economy by time saving in the reaction schedule.

4. Ratio between wood and acid as such and density of chip charge as affecting the efficient use of the digester vessel;

5. Concentration of acid both in regard to free SO_2 and combined SO_2 and their influence on the various pulp properties;

6. Changes in concentration of acid due to wood moisture and steam, when direct admittance of steam is used;

7. Changes in concentration of liquid by removal of liquid and gas during the cooking cycle;

8. Temperature and time schedules;

9. Pressure schedules and their effect on concentration and hydrostatic effects;

10. Volume changes by removal of liquors;

11. Procedures used in removal of cooking liquids; and

12. Procedures used in removal of finished pulp.

When working with laboratory equipment these conditions might be easily controlled; full scale, commercial operation being approximations of ideal conditions are not always easily controlled.

When determining what type of equipment to select and how closely the various factors affecting the cooking reaction must be controlled, it must be clearly defined what pulp characteristics are most important. In some cases a pulp might be desired which has good chemical purity with the strength properties of little importance; in another case it might be necessary to stress strength properties and a desire to retain some noncellulose matter beneficial to the processing used by the customer.

A detailed discussion of the various factors affecting the digestion process is outside the range of this paper. Only a few points can be indicated suggestively.

For pulps of low cost, relatively good strength, and

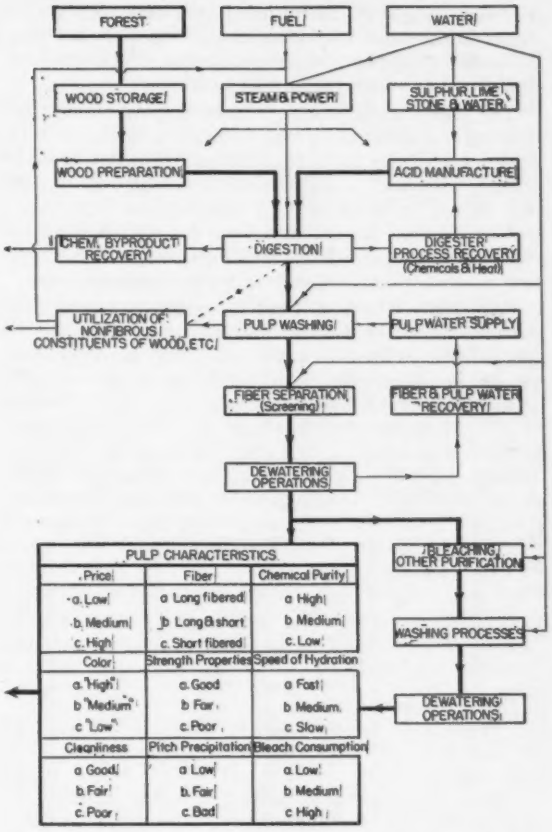


FIG. 1
Diagram of Manufacture of Sulphite Pulps

medium speeds of hydration it may be well to use direct admittance of steam to the digester, but it is advisable to apply forced circulation of the cooking liquid to insure uniformity of product.

The same arrangement would appear a satisfactory arrangement for pulps of high cellulose content.

When cooking for strong pulps using low temperatures, with the extended time necessary, it appears best to use indirect heating which gives better control of dilution factors and forced circulation of the cooking liquids which insures uniform heat distribution as well as uniformity in liquor concentration.

For pulps where a limited, selective removal of wood material is desired the horizontal type of digester with indirect heating but equalization by convection is also applied. Although historically old, this arrangement, and procedures used with it, gives pulps of above mentioned type which have, as yet, not been surpassed in quality. Modernization of this digester arrangement by applying stainless alloys and labor saving devices and arrangements still make it of importance probably because of the low hydrostatic head used and the gentle handling of the fiber mass on emptying the vessel.

Whether the vertical digester with indirect heating and forced circulation with improvements in conditions of emptying will be able to produce as good or better pulp than the old Mitscherlich type has still to be proven.

In regard to reaction and operating procedures in the digester operation all know of the influence of kind and condition of wood materials, acid concentrations, temperature schedules, pressure schedules, etc., but the time or opportunity might not have been had to analyze the possibilities of correcting pulp characteristics by adjusting such conditions.

It has been found that good pulp calls for good, sound wood.

The maximum temperature during the cook is of great importance and even slight corrections might be found of value in adjusting for wood of inferior quality.

Years of observation have indicated that for a high tearing test it is necessary to cook out fairly well, for a high bursting strength one must work towards under-cooking. If both characteristics are required in the same pulp, the maximum temperature must be lowered with, of course, consequent loss in the speed of the reaction.

Speed of hydration has been found, in general, to be benefited by the same conditions which improve the bursting and tensile strength characteristics of a pulp.

It is interesting to observe that similar relationships seem to exist when dealing with bleaching problems when chlorination is used as a first stage.

Time available does not permit further consideration on the problems of digester operation. Careful observation of digester problems will, however, reveal interesting and profitable data which can be traced in resultant changes in pulp properties.

Acid Plant

The acid plant is a raw material plant producing cooking liquid. It operates as such with water, sulphur, and lime or some other base.

However, it also utilizes excess sulphur dioxide and liquids removed from the digester operation which makes the digester and acid plant operations interdependent.

The acid plant is fundamentally a heavy chemical plant but also is a byproduct recovery plant.

The control of the acid composition should be assigned to the acid plant, and equipment should be available to maintain such control without juggling the digester operation.

Improvements in acid plant arrangements have made such control easier than it formerly was New ideas in sulphur combustion have increased the strength of gas produced and also improved the quality of the gas by lowering the amount of sulphur trioxide produced. Improvements in cooling equipment and addition of auxiliary absorption equipment and use of storage tanks under pressure have made it possible to use stronger acids as well as acids at elevated temperature in charging the digesters.

The problems of recovery of excess gas and liquids from the digester operation are closely related to the operation of the acid plant and pulp properties are dependent on the acid plant operation both due to the fundamental acid plant operation and to the handling of the recovery as applied to the digester room.

The amount of combined sulphur dioxide is primarily controlled by the acid plant, the free sulphur dioxide to a great extent by the digester recovery operations.

The amount of combined sulphur dioxide in the acid influences the speed of the cooking reaction and also the color properties of the resultant pulp; high combined sulphur dioxide favors bright color of the unbleached pulp; it also helps to protect the wood against over cooking with the consequent gain in pulp yield.

The characteristics of a pulp as it leaves the digester are already determined as to their main features. They are the results of many combined effects hardly any one of which can be completely segregated and considered the sole cause of the result. This latter fact is what sometimes makes the practical operator cautious in embarking on sudden changes in manufacturing procedures.

The pulp as it leaves the digester may be either well cooked or mildly cooked. These terms are, of course, relative expressions comparing the pulp to some agreed on standard differing with different plants and uses to which the pulp is put. The expressions "soft" and "hard" sulphite pulp are used and some general indications of the pulp characteristics can be given by using these expressions.

A comparative table of what general characteristics might be expected would read about as follows:

	Well Cooked or Soft Pulp	Under (Mildly) Cooked or Hard Pulps
Chemical purity	Good	Poor
Strength properties		
Bursting strength	Poor	Good
Tearing strength	Good	Poor
Cleanliness	Good	Poor
Bleach consumption	Low	High
Speed of hydration	Slow	Fast

Washing

The pulp after discharge from the digester must first be rid of adhering cooking liquors and this is done by draining and washing the pulp.

Various methods are employed in modern practice. They all aim at removal of chemical impurities including emulsified resinous compounds or "pitch" with least possible loss of usable fiber. Recent work in pulp washing procedures has encouraged the removal of short fibers as being carriers of pitch and besides of little value to the pulp consumer.

Vacuum washers with their washing of the pulp

in a relatively thin mat have been introduced in some plants of late and warm water, although costly, has found some favor.

Good washing is important and shows itself in its effects on several pulp characteristics such as improved chemical purity as such, low pitch content, and low bleach consumption. It might be found to increase costs considerably by fiber loss and excessive cost of water, particularly if hot water is used.

Where high chemical purity is desired it may be found more practical to obtain it by cooking the pulp softer than by applying expensive washing to a relatively hard pulp.

Screening

For separation of fiber bundles and the removal of solid impurities, various combinations of settling, screening, and centrifugal processing are employed.

Pulps being heterogeneous masses of cellulose fibers of various sizes and shapes do not respond in the same manner to screening operations; the cleanliness desirable or economically possible also varies with different types of pulps whether soft or hard.

Flotation or riffling is a common means of removing matter of a specific gravity greater than that of cellulose fiber and does fine work on heavy material such as common inorganic impurities encountered in the sulphite process.

Impurities of a specific gravity close to that of the cellulose fiber must be removed by straining or screening through holes or slots.

The appearance of such impurities in the pulp slurry can be traced back to wood properties, wood cleaning operations, and the degree of digestion to which the wood material has been subjected.

Most pulp must be screened and careful considertion must be given to wood cleaning, cooking, and screening procedures in regard to their respective influences on pulp cleanliness.

No set rule can be given, as changes, particularly in cooking, will also affect other pulp characteristics.

Screening proper is a size separation process. With a fiber mass containing particles of various sizes, one would expect to have the possibility of classifying such sizes and to produce pulps of predetermined fiber distribution. Some work has been done along these lines and pulps are now produced under the name of "fractionated pulps" where the mass has been enriched in its contents of long fiber usually by the removal of short fiber. The removal of excessively short, pitch carrying fibers must be considered a gain; whether an increase in long fibers or exceptionally long fibers as such are an advantage to the customer is a question open to debate. Fiber analyses of some pulps recognized as fine papermaking pulps have shown that they had a shorter average fiber length than other pulps not as well received by the papermaking trade.

Careful investigations of fiber characteristics and size distribution would be a great help in improving the product. What the papermaking customer is sold is not a "substance," but a potential fiber suspension for his further processing and felting operations.

Dewatering

Dewatering operations are always necessary in pulping processes but to various extents. The self-contained plant in most cases uses its pulps in slush form of 3 to 15% consistencies. Where the pulp has to be transported over long distances it is often converted into dried sheets. Improper drying has been found to affect the cellulose fiber and cause decrease in strength properties of resultant paper products.

Dewatering and particularly such operation with the use of wire screens are common pulp mill practices. Such processing can prove costly if due precautions are not taken in the proper utilization of resultant pulp waters with their content of stray fiber. The occurrence of such fiber and "white waters" is an important problem both in the effects its reuse has on cost characteristics of the pulp and on other properties.

Bleaching

Pulps obtained by processing discussed so far in this paper possess quite light color and are satisfactory for many purposes.

If, however, brightly colored or white papers are called for, the unbleached sulphite pulp must be further processed for improvement in its color characteristics. For the production of such pulps the common practice used to be cooking of the wood to a relatively soft pulp which would readily respond to oxydizing bleaching employing hypochlorite solution.

Modern mill operation employs a slightly different procedure.

With the introduction of the use of elemental chlorine as a first stage in the bleaching process, it has been found that the chlorination stage can be treated as a continuation of purification produced by the sulphite cooking process.

The practical consequence of this has been that pulps now often are produced using milder sulphite cooking procedures with the final removal of chemical wood substance by treatment, at room temperature, with chlorine introduced in pulp suspensions at low consistencies.

It is now possible to bleach harder pulps than formerly was the case with gains in strength properties as well as yields.

It is interesting to observe that some late investigators of the bleaching processes have tried to explore changes in the cellulose fiber as such when subjected to bleaching. The author believes that such research should be encouraged to include also changes produced by the sulphite cooking process.

Cleanliness becomes an item of increased importance when the pulp's hiding power is deereased by an improvement in color.

Rescreening and centrifugal separation, closer control of wood cleaning and selection, more careful cooking procedures to insure better removal of wood dirt without lowering of the strength properties of the pulp, all are means to protect against excessive dirt in pulps.

In some cases it has been found practical to forego the use of a chlorination stage in bleaching to take advantage of the more severe treatment of pulps by oxydizing bleaching at elevated temperatures. A lowering of the dirt count by such a procedure means, however, a sacrifice of other characteristics of the pulp, particularly strength and hydrating properties.

Pulps for chemical conversion are further purified and to an extent where their characteristics as sulphite fiber pulps are submerged in favor of their characteristics as cellulose substance.

Costs

Cost is a very important item to consider. It is more or less closely related to all other properties of a pulp and must be analyzed in each individual case.

Due attention should also be paid to consideration of the efficiency a pulp might give the customer in his processing. The cheapest pulp is not always the cheapest fiber raw material for the papermaker to use.

Utilization of NonFibrous Material of Wood

The material which is isolated from wood in the sulphite process amounts to about one half of the weight of the wood. The rest is usually sent to the sewer.

Utilization of this vast amount of organic chemical material in an economical manner might, of course, make it possible to improve the cost characteristics of the pulp. Also, legislation against stream pollution gives another incentive to solve the waste material problems.

Much work has been expended on recovering this wood waste, and plants now exist which have made considerable advances in this field. Difficulties in work along these lines are many, not only confined to technical problems, but also to economic problems connected with the development of markets for the large amounts of organic substances which might be made available.

The safest solution of this waste problem for the sulphite pulping industry as a whole at this time appears to be the conversion of this waste material into fuel usable by the producer himself without his entrance into the organic chemical markets.

Wherever work has been done on the utilization of sulphite waste liquors, the presence of calcium as the base in the original cooking acid has been found to cause technical difficulties hard to overcome.

Recent work on this continent in trying to replace the calcium with magnesium or ammonium bases has given interesting results, and either base might in the future help to solve the problem of increased utilization of the wood material with a decreased cost of pulp manufacture.

Pulp Quality

No definite information seems to be available in regard to the type of pulp brought on the market by sulphite pulp manufacturers, when such pulps were first produced. There are reasons to believe, however, that it was papermakers pulp of medium fiber length produced from spruce wood.

There are now several general types, usually described by the uses to which they are put or the wood material and process used in manufacture. Such terms are found as: news, bond, book, strong, rayon, and spruce, hemlock, and hardwood sulphites.

It might be possible to consider classifying pulps according to average fiber length and to their responsiveness to "papermakers hydration." Describing a pulp as long, medium, or short fibered and fast, slow or nonhydrating will give interesting information because of the fact that the hydrating property of a pulp is an important factor in determining its usefulness.

Development of an expression for hydrating property might prove difficult. It has been found, however, that viscosity tests generally follow hydrating characteristics closely, and further research of the relationship between viscosity and that elusive property called hydration may prove viscosity data of great value.

Detailed information in regard to dirt count, strength tests, color, etc., would serve as further data of value.

If to this could be added fiber distribution data, it is believed that it might be possible to form a fairly good picture of the type of pulp which is being manufactured.

To cover in any detail, an industry using so many varied unit processes and types of equipment as does the sulphite industry is, of course, not possible within the space of a short paper.

The author has therefore limited the discussion to a few items and problems which he has encountered as an operator, approaching them in a general way.

The pulp mill operator is always confronted with the problems of establishing balances between the various process features to attain his goal, quality pulp at a low cost.

A pulp plant is an organic whole, a living thing, with a personality recognized by its present activities and its capacity for growth. Its performance rests on team work between its various parts and where the most stress has to be placed depends on results desired.

Each operator must study his own problems and solve them according to his own needs whether he be looking for strong pulp, clean pulp, or chemically pure pulp or any combination of them.

It seems proper at this time that the industry should take stock to determine its position and gain knowledge of possible bearings for the future.

The sulphite industry has grown from a small newcomer in the paper fiber field to a dominating position as a cellulose fiber producer. Much work has been done since its infancy by research and development to increase its process efficiency. All look forward to increased interest in further research and development of overall material economy and improvements in the quality of its products to still better serve a civilization which increasingly utilizes cellulose and its natural associates as basic raw materials in its progress.

Rubber in Engineering

The Chemical Publishing Company has recently published an interesting volume entitled "Rubber in Engineering" (267 pp. 5½ x 8½) which was prepared under the direction of the Controller of Chemical Research of the Ministry of Supply on the basis of research carried out by the Imperial Chemical Industries, Ltd. in England.

The subject has been treated on the basis of many years of experience of authorities in the rubber and engineering fields. Rubber has such remarkable properties that its practical application has far surpassed an understanding of its behavior.

Among the subjects covered are: the rubber-like state; the mechanical properties of rubber; change of properties with age and service; the conductivity of rubber (heat, sound and electricity); the diffusion of gases through rubber; bonding of rubber to metal; the relative merits of compression and shear in design and shape factor; shock absorption and vibration insulation; designing the rubber component; and compression stress-strain relationship.

In the paper industry the effort being made to reduce mill noise and vibration involves the use of rubber dampeners in many cases. This subject is well treated.

Copies may be obtained from the Book Department of the Technical Association of the Pulp and Paper Industry, 122 East 42nd Street, New York 17, N. Y., at $5.50 per copy.

Paper and Paper Stock Imports At New York and Other Ports

NEW YORK IMPORTS

WEEK ENDING AUGUST 17, 1946

SUMMARY

Newsprint	1,074 rolls
Wall Paper	14 cs.
Writing Paper	4 cs.
Parchment Paper	4 cs.
Vermicide Paper	12 cs.
Tissue Paper	4 cs.
Tracing Cloth	3 cs.
Photo Paper	108 cs.
Filter Paper	2 cs.

NEWSPRINT

H. G. Craig Co., Inc., A.C.D., Donnacona, 393 rolls.
H. G. Craig Co., Inc., G.T.D., Donnacona, 369 rolls.
H. G. Craig Co., Inc., Newscarrier, Donnacona, 312 rolls.

WALLPAPER

R. F. Downing Co., Inc., Indochinois, Havre, 4 cs.
A. L. Diament & Co., Indochinois, Havre, 10 cs.

WRITING PAPER

B. Altman & Co., Indochinois, Havre, 1 cs.
F. L. Kramer & Co., Kenyon Butterfield, London, 3 cs.

PARCHMENT PAPER

The Plastic Coating Corp., West Linn Victory, Antwerp, 4 cs.

VERMICIDE PAPER

K. O. Hohle, Muncie Victory, Liverpool, 12 cs. (DDT).

TISSUE PAPER

Pan American Trust Co., Muncie Victory, Liverpool, 4 cs.

TRACING CLOTH

Defiance Sales Corp., Muncie Victory, Liverpool, 3 cs.

PHOTO PAPER

Intercontinental Forwarding Co., Kenyon Butterfield, London, 100 cs. (base).
J. J. Gavin Co., Inc., Kenyon Butterfield, London, 8 cs. (unsensitized).

FILTER PAPER

H. Reeve Angel & Co., Inc., Kenyon Butterfield, London, 1 cs.
(———), Kenyon Butterfield, 1 cs.

RAGS, BAGGING, ETC.

Castle & Overton, Inc., Lillian Nordica, Rotterdam, 269 bls. rags.
Castle & Overton, Inc., Explorer, Leghorn, 70 bls. threadwaste.
(———), Mesh Knot, Vera Cruz, 47 bls. woolen rags.
Chase National Bank, Mesh Knot, Vera Cruz, 66 bls. woolen rags.
State Street Trust Co., Mesh Knot, Vera Cruz, 47 bls. wool rags.
Swiss Bank Corp., Mesh Knot, Vera Cruz, 29 bls. wool rags.
Padawer Trading Co., Hollybank, Calcutta, 200 bls. cotton waste.
C. Comiter, Exhibitor, Bombay, 190 bls. cotton waste.
S. L. Ayres, Exhibitor, Bombay, 289 bls. cotton waste.
American Cotton Products Co., Mormaclark, Sao Luis do Maranhao, 92 bls. cotton waste.
National Vulcanized Fibre Co., West Linn Victory, Antwerp, 169 bls. old cotton rags.
Tradesmans National Bank Trust Co., American Builder, Glasgow, 910 bls. old webbing.
(———), American Builder, Glasgow, 27 bls. paperstock.
Tradesmans National Bank Trust Co., Muncie Victory, Liverpool, 182 bls. cotton rags.
J. Eisenberg, Inc., Muncie Victory, Liverpool, 19 bls. new wool rags.
Tradesmans National Bank Trust Co., Kenyon Butterfield, London, 187 bls. rags.
Railway Supply & Manufacturing Co., Chinese Prince, Santos, 463 bls. cotton waste.

OLD ROPE

W. J. Green & Co., Inc., Hollybank, Calcutta, 41 bls. old hemp rope cuttings.
P. J. Schweitzer, Inc., Hollybank, Calcutta, 438 bls. old hemp rope cuttings.

CASEIN

American Firstoline Corp., Chinese Prince, Buenos Aires, 400 bags (lactic).

GLUESTOCK

J. Gorvers, Pan Crescent, Barranquilla, 149 pkgs. gluestock cuttings.
H. Remis, Chinese Prince, Santos, 173 pkgs. gluestock.

WOODPULP

Bulkeley Dunton Pulp Co., Inc., Oscar Borjesson, Gefle, 1778 bls. dry sulphate pulp, 355 tons.
Bulkeley Dunton Pulp Co., Inc., Oscar Borjesson, Iggesund, 1625 bls. prime bleached sulphite pulp, 325 tons.
Personal Products Co., Oscar Borjesson, Stocka, 6,000 bls. dry bleached sulphite pulp, 1,000 tons.

BOSTON IMPORTS

WEEK ENDING AUGUST 17, 1946

Andrus Paper Co., West Linn Victory, Antwerp, 1 cs. parchment paper.

PHILADELPHIA IMPORTS

WEEK ENDING AUGUST 17, 1946

Castle & Overton, Inc., West Linn Victory, Antwerp, 59 bls. rags.
Lush Cotton Products Co., Hollybank, Calcutta, 900 bls. cotton waste.

Wyandotte Names Chesnut To Head Coast Division

SAN FRANCISCO—Charles O. Chesnut became general manager of the newly organized Pacific Division of Wyandotte Chemicals Corporation effective August 1st. Manufacturing and distributing activities in the Pacific States of the products of both the J. B. Ford and Michigan Alkali Divisions of Wyandotte Chemicals Corporation, and of Natural Soda Products Company, will now be directed from the new Pacific Division office, 502-14 Central Tower Building. The Pacific Division will also solicit business on the new Wyandotte organic specialities and fine chemicals.

Mr. Chesnut also became president of Natural Soda Products Company August 1st on the retirement of Stanley Pedder, who had requested more time to devote to his law practice. The manufacturing operations of this organization are at Owens Lake, California.

Robins Releases Bulletin On Eliptex Screen

PASSAIC, N. J. — Robins Conveyors Incorporated, division of Hewitt-Robins Inc., has just released a new bulletin describing and illustrating the Robins Eliptex Screen. The Eliptex employs a unique elliptical motion with three separate components: a horizontal component which moves the material across the deck quickly, giving high capacity; a vertical component which makes the material separate into sizes and "keep moving"; and an elliptical component which gives sharpest possible sizing — all three in one screen which can be installed horizontally to save headroom.

The three components, as well as the mechanical features of the Robins Eliptex Screen, are described in detail in Bulletin No. 111-A. Specific applications for dewatering, heavy-media dewatering, and asphalt plants are also defined in detail. Dimensions and clearances in the single, double and triple deck types are clearly stated.

A copy may be secured by writing to Robins Conveyors Incorporated, Passaic, N. J.

Klein Moves to Texas

Hugo Klein, who recently resigned as vice-president in charge of chemical production and research of the Charles Bruning Company, Inc., New York, has accepted the position of manufacturing manager of Converted Rice, Houston, Texas, beginning October 1st.

Week's Record of Trends in The Paper and Pulp Market

Office of the PAPER TRADE JOURNAL,
Wednesday, August 21, 1946.

Supplies of paper and paperboard continue to lag behind demand. Paperboard mills still count heavily on waste paper for many grades produced. Heavier weights of paper are draining available paper supplies; while demand for container board, folding and set-up boxboard is far ahead of production. Consumption of imported wood pulp is averaging 125,000 tons a month, with about 50 per cent coming from Canada and 50 per cent from overseas. Monthly consumption of 60,000 tons of overseas pulp approximates the average monthly decline in inventories of purchased imported market pulp. Pulpwood and waste paper supply situation is currently and prospectively generally favorable; with only the West Coast reporting continued problems in these raw materials. Supplies of starch and casein remain very tight. Stocks of rosin in the New York area are diminishing fast with suppliers unable to buy any grades from Betsy to Nancy in the South. Meanwhile, government decision on rosin decontrol or price ceiling increases is expected momentarily.

Labor shortages are rapidly disappearing as confirmed by the Bureau of Labor Statistics, whose preliminary figures for May indicate an increase of only 1,000 in the number of workers in the paper and allied products industries. This is the first month since September 1945 that less than 4,000 workers have been added; indicating a declining rate of separations and accessions. The recent wave of strikes prevailing in many industries has abated. While a few minor localized strikes have been reported in the paper industry, most labor difficulties have been settled peaceably. Working hours per week have decreased while hourly earnings and take home pay have increased in the pulp, paper and allied products industries. However, hours of work and rates of pay in the manufacturing segment of the industry continue to exceed those in the converting segment, principally because of a larger proportion of skilled workers and differences in operating conditions.

The index of general business activity for the week ended August 10 fell to 137.8 from 137.9 in the previous week, compared with 137.5 for the corresponding week in 1945. The index of paperboard production fell to 161.4 from 165.9 in the previous week, compared with 151.9 for the corresponding week in 1945.

Paper production for the week ended August 10 was estimated at 103.4 per cent compared with 105.2 for the preceding week, with 93.0 for the corresponding week in 1945, with 91.2 for 1944, with 92.4 for 1943, and with 77.5 for the corresponding week in 1942.

Paperboard production for the week ended August 10 was 96.0 per cent of capacity, compared with 98.0 per cent for the preceding week, with 94.0 for the corresponding week in 1945, with 96.0 for 1944, with 98.0 for 1943, and with 73.0 for the corresponding week in 1942.

Wood Pulp

Subsidies are anticipated for wood pulp according to the reported recommendation by OPA for their restoration to maintain an even flow of the commodity. The main question now is, what will be the amounts of the subsidies, if granted, in view of the reduced allotment authorized for this purpose in the price extension act.

Still there is no decision from OPA on pulp imports. Pulp arrivals have been fair from overseas, while shipments from Canada have decreased. Subsidized domestic mills have been shipping at the old ceilings, either at a loss or at little or no profit for some of the mills. If OPA doesn't come to a decision soon, some mills may be forced to quit altogether.

Reports from the Finnish Cellulose Corp. indicate that Finland is prepared to increase wood pulp exports to the United States from about 35,000 tons in the first half of this year to a total of 100,000 tons the last half, and to 220,000 tons in all of 1947.

Rags

Cotton waste is very tight with white threads reported at 11 to 11.50c. Demand for new cotton cuttings on all grades is still far ahead of available supplies.

Heavy wipers continue to drop and are now $50 per ton in deals with classification stocks at $29 and $31 in a 1 to 3 ratio. Foreign dark cottons remain at $75 to $80 with consumer buying limited. Rag substitutes are not being bought in wartime volume, but remain fairly important.

Old Rope and Bagging

Old rope market is steady at ceiling levels. Large No. 1 quality sisal commands 4.75c, small sisal 4c, and No. 1 quality Manila 5.75c. Mills generally will not accept tarred, oily, greasy or otherwise bad Manila; the few that do pay only 2 to 2.50c per pound for this kind of rope. Soft jutes are strong at 4.50 to 5.50c; while mixed strings remain 1.75 to 2.00c.

Bagging market maintains firm levels, with No. 1 scrap bagging at $4.50 delivered to paper mills. Mixed bagging including gunny moves at $4 shipping point in the South. Gunny is very strong, all the way from $4 to $4.50 delivered Northeast. British gunny is available at $4.25 dock, $4.50 Midwest and $4.75 in the deep South.

Waste Paper

Car shortages are causing widespread use of trucks for deliveries. Meanwhile the waste paper market shows signs of stiffening. One indication was the ability of some New York packers to secure the $2.00 per ton loading charges for loading cars or barges away from siding.

All high grades remain steady, with white shavings moving easily at the $67.50 ceiling. Kraft, especially triple sorted, and book stock is in good demand. Mills, however, are still insistent on getting the right kind of paper; especially with regard to book stocks.

Toronto Hears Why Paper Bags Are Shy

TORONTO—The sudden disappearance of paper bags from the retail market is explained by officials of the Wartime Prices and Trade Board that the same material is used in them as is used to make heavy kraft paper. The building industry is consuming more of that paper than ever before. Statistics are quoted to show that the cement industry alone is gobbling up an unprecedented number of bags. To meet the increased demand in the building trades, production of paper bags was cut ten per cent, at the beginning of the year and another ten per cent in July. Paper bag production is still four times what it was in pre-war days.

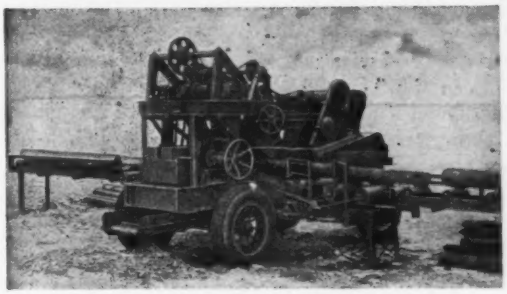
Large quantities of heavy paper are also being used for food shipments overseas. Officials are unable to predict how long the paper bag shortage will last, but they urge housewives to have patience and do with as few paper bags as possible. It was generally believed that as soon as the manufacture and shipment of munitions of war ceased, there would be ample supplies of pulp to make all the paper bags and wrappings that could possibly be required. The great upsurge in building and the packaging required for overseas shipments of foods have combined to take up the slack and even add to the requirements for pulp.

Wheeler Paper Producing Sulphite Substitute

ALBANY, N. Y.—Wheeler Paper Corporation is producing at a de-inking plant in Hudson Falls a pulp which is designed to take the place of sulphite to be used as the complete furnish. The company claims its pulp has certain advantages, the first being lower price, second that it takes considerably less time to prepare as time is saved in beating and jordaning. The pulp to be used for sulphite is reported to have almost the same strength. Mills who can exchange tissue and toweling for pulp will have the preference.

NEKOOSA PORTABLE WOOD PEELER

10 Men



The number of men required to operate the Nekoosa Portable Wood Peeler is determined by the layout of the wood handling equipment on the particular operation. Ten men can operate it without auxiliary equipment and produce as much peeled wood as 50 men peeling by hand. Auxiliary handling equipment will further eliminate labor.

Machine is operated by 30 H.P. motor.

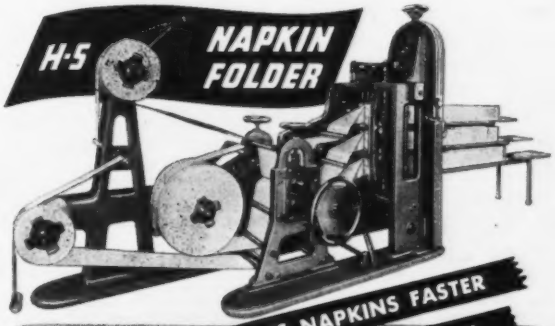
Write for descriptive bulletin

Large Capacity
Low Cost Operation
No Wood Loss

manufactured by

Nekoosa Foundry & Machine Works Inc.

Nekoosa, Wis. **U. S. A.**



PRODUCES NAPKINS FASTER . . . THAN EVER BEFORE

MORE and better napkins with our post-war No. 2-A folder. Makes all folds — quarter fold, eighth fold, sixteenth fold and dispenser fold — on one machine. This unusual versatility, plus our usual quality, makes this multiple duty folder an important addition to your production department. Write for information.

HUDSON-SHARP
MACHINE CO • GREEN BAY • WIS

SERVING THE PAPER INDUSTRY

Right equipment — a better product at a lower cost. Look to Smith & Winchester's 118 years of leadership for the *right* equipment.

PAPER MAKING MACHINERY
PAPER BAG MACHINES
MODEL "E" UNDERCUT TRIMMER
JORDANS — FOURDRINIERS
WET AND CYLINDER MACHINES
ROTARY SPOT CUTTERS
REELS AND WINDERS
STUFF AND FAN PUMPS
ROLLS OF ALL KINDS

Bulletins furnished on request. We specialize on custom-built machinery to fit your particular needs.

The SMITH & WINCHESTER
Manufacturing Company
SOUTH WINDHAM, CONN.

MISCELLANEOUS MARKETS

Office of the PAPER TRADE JOURNAL,
Wednesday, August 21, 1946.

BLANC FIXE—Demand is reported as fairly active. Pulp is currently quoted at $40 per ton, in barrels, car lots, at works; the powder is currently quoted at $60 per ton, car lots f.o.b. works.

BLEACHING POWDER—Seasonal demand is steady for domestic and export use. Favorable supply situation meeting current requirements. Quotations are unchanged. Prices on bleaching powder range from $2.50 to $3.10 per 100 pounds, in drums, car lots at works.

CASEIN — Prevailing prices on processed acid-precipitated casein are as follows: 10,000 pounds or more, 33 cents per pound; 2,000 pounds 33¼ cents per pound; less than 2,000 pounds, 33¾ cents per pounds, f.o.b. shipping point.

CAUSTIC SODA—Critical shortage continues while demand remains very heavy. Steel sheet shortage creates drum scarcity. Cutback production further reduces stock. Solid caustic soda is quoted at $2.30 per 100 pounds; flaked and ground is quoted at $2.70 to $2.95 per 100 pounds. All prices car lots.

CHINA CLAY—Demand remains fair to good with English grades offered in quantity. Quotations remain unchanged. Domestic filler clay is currently quoted at from $8.50 to $9 per ton; coating clay is quoted at from $12 to $22 per ton, at mine. Imported clay is quoted at from $22 to $25 per long ton, ship side. All prices quoted in car lots.

CHLORINE—Steady demand, stocks low, with little improvement in container supply. Quotations unchanged. Chlorine is currently quoted at 2.00 to $2.25 per 100 pounds, in single unit tank cars, f.o.b. works.

ROSIN—Savannah, Ga., quotations per 100 pounds in drums: B, $6.20; D, $6.27; E, $6.80; F, $6.90; G, $6.94; H to I, $6.96; K, $7.00; M, $7.02; N, $7.18; WG, $7.26; WW & X, $7.35. All prices in car lots.

SALT CAKE—Inventories low with demand increasingly heavy. Prices remain unchanged. Domestic salt cake is quoted at $15 per ton, in bulk. Chrome salt cake is quoted at $16 per ton. All prices in car lots, f.o.b. shipping point.

SODA ASH—Active over-all demand is reported with supplies showing no improvement. Boxcar shortage delays shipments. Orders allocated to equalize distribution. Quotations continue unchanged. Current prices, car lots, per 100 pounds, are as follows: in bulk, $.95; in paper bags, $1.05; and in barrels, $1.35.

STARCH—Supplies currently lag behind demand. Previous orders filled. Starch prices continue unchanged. The pearl grade is quoted at $5.87 per 100 pounds; powdreed starch at $6.02 per 100 pounds; both prices in bags, car lots, f.o.b. Chicago.

SULPHATE OF ALUMINA — Supplies moderate with demand reported active. Quotations continue unchanged. The commercial grades are quoted at from $1.15 to $1.20 per 100 pounds, in bags, car lots, f.o.b. works. The iron free is currently quoted at $1.75 to $2.00 per 100 pounds, in bags, at works.

SULPHUR—Strong seasonal demand is reported with stocks plentiful, shipments sometimes temporarily delayed. Annual contracts are quoted at $16 per long ton, f.o.b. mines; the price f.o.b. at Gulf Ports is $17.50 per long ton. Prices in car lots.

TALC—Domestic and French grades are moving in good volume with prices steady. Domestic grades are currently quoted at from $16 to $30 per ton at mines; Canadian at $24 to $30 per ton. All prices quoted on car lots.

MARKET QUOTATIONS

All market quotations, excepting those otherwise designated as official OPA maximum prices, are based on the manufacturers' price level as of October 1-15, 1941; maximum wholesale prices are based on the merchants' maximum prices for stipulated quantities at a quoted price to all customers of a like class, as shown by the merchant's sales records of goods delivered during March, 1942. A merchant's price list in effect in March, 1942, showing quotations of actual shipments, will establish the current maximum prices.

Paper

(Delivered New York)

Standard News, per ton—			
Roll, contract	$67.00	@	—
Sheets	75.00	@	—
Kraft—per cwt.—Carload Quantities Zone A, Delivered			
Superstandard Wrapping	*$5.25	@	—
No. 1 Wrapping	*5.00	"	—
Standard Wrapping	*4.75	"	—
Standard bag	*4.75	"	—

* Prices for Standard Wrapping are for 40 lb. base weight; for Standard Bag for 30 lb base weight.

Tissues—Per Ream—Carlots			
White No. 1	1.12½	"	—
White No. 1 M. G.	1.10	"	—
White No. 1½	1.00	"	—
White No. 2	.90	"	—
Anti-Tarnish M.F.	1.20	"	—
Colored	—	"	—
Kraft	.95	"	—
Manila	.90	"	—
Toilet—1 M. Sheets—Per Case			
Unbleached	4.25	"	—
Bleached	5.70	"	—
Unbl. Toilet, 1 M.	4.16	"	—
Bleached Toilet	5.70	"	—
Paper Towels, Per Case—			
Unbleached, Jr.	2.20	"	—
Bleached, Jr.	3.20	"	—
Manila—per cwt.—C. l. f. a.			
No. 1 Jute	11.25	@	—
No. 1 Manila 35 lb.	6.00	"	7.00
Boards, per ton—			
News	*58.00	@	—
Chip	*58.00	@	—
Sgl. Mla. Ll. Chip	*65.00	@	—
White Pat. Coated	*79.00	@	—
Kraft Liners 50 lb.	*74.00	"	—
Binders Boards	84.00	"	116.00

* OPA Base Prices per 10 tons. Less than 10 tons but over 3 tons, add $2.50; three tons or less, add $5; regular 35-39 basis, add $5; basis 40-49, add $2.50; basis 91-100, add $2.50; basis 101-120, add $5.

The following are representative of distributors' resale prices:

Rag Content Bonds and Ledgers—White, Assorted Items
Delivered in Zone 1:

	Bonds	Ledgers
100% Rag Ext. No. 1	$39.10@$46.00	$40.25@$47.25
100% Rag	32.20 " 37.75	33.35 " 39.25
85% Rag	.... "	29.90 " 35.00
75% Rag	23.00 " 27.00	24.15 " 28.25
65% Rag	.... "	22.80 " 27.75
50% Rag	18.70 " 22.75	19.90 " 24.25
25% Rag	16.40 " 20.00	17.55 " 21.50

Colors at $1.00 cwt. extra.

Sulphite Bonds and Ledgers—White, Assorted Items
Delivered in Zone 1:

	Bonds	Ledgers
No. 1	$10.55@$12.75	$11.70@$14.25
No. 2	9.65 " 11.75	10.80 " 13.25
No. 3	9.20 " 11.25	10.35 " 12.50
No. 4	8.90 " 10.75	10.05 " 12.25

Colors $1.00 cwt. extra.

Free Sheet Book Papers—White, Cased Paper
Delivered in Zone 1:

No. 1 Glossy Coated	$13.65@$15.50
No. 2 Glossy Coated	12.40 " 14.00
No. 3 Glossy Coated	11.60 " 13.25
No. 4 Glossy Coated	11.15 " 12.75
No. 1 Antique (watermarked)	10.25 " 11.75
No. 2 Offset	9.60 " 11.00
A Grade E. F.	9.35 " 10.75
A Grade S. & S. C.	9.60 " 11.00
B Grade E. F.	8.85 " 10.25
B Grade S. C.	9.10 " 10.50
C Grade E. F.	8.55 " 9.75
C Grade S. C.	8.80 " 10.00
D Grade E. F.	8.25 " 9.50
D Grade S. & S. C.	8.50 " 9.75

Ivory & India at $.50 cwt. extra.

Wood Pulp

OPA Maximum Prices and Canadian Manufacturers' Prices, Less Freight. Not Exceeding OPA Allowances.

Bl. Softwood Sulphite	$94.00
Unbl. Softwood Sulphite	82.00
Bl. Hardwood Sulphite	91.50
Unbl. Hardwood Sulphite	79.50
Bl. Glassine Sulphite	97.00
Unbl. Glassine Sulphite	86.00
N. Bleached Sulphate	94.00
S. Bleached Sulphate	88.00
N. Semi-Bleached Sulphate	89.00
S. Semi-Bleached Sulphate	83.00
N. Unbl. Sulphate	76.00
S. Unbl. Sulphate	69.50
Bl. Soda	84.00
Unbl. Soda	80.00
Groundwood	58.00

Transportation Allowances

Applying to Producers of Wet Wood Pulp.

Below 50% Air Dry Weight	
Northeast	$12.50
Lake Central	12.50
Southern	15.00
West Coast (in area)	9.50
West Coast (out area)	15.50

50%-80% Air Dry Weight	
Northeast	$10.50
Lake Central	10.50
Southern	13.00
West Coast (in area)	8.50
West Coast (out area)	14.50

Applying to Producers of Dry Wood Pulp.

Above 80% Air Dry Weight	
Northeast	$7.50
Lake Central	7.50
Southern	10.00
West Coast (in area)	6.50
West Coast (out area)	12.50

Should freight charges actually exceed these allowances, the difference may be added to the maximum prices.

Domestic Rags

New Rags

(Nominal Prices Delivered to Mill + 5% Brokerage)

Shirt Cuttings—		
New White, No. 1	7.25 @	Nominal
Silesias No. 1	5.75 "	"
New Unbleached	7.50 "	"
Blue Overall	5.50 "	"
Fancy	3.50 "	"
Washables	3.00 "	"
Bleached Khaki Cutting	4.25 "	"
Unbleached Khaki Cuttings	3.50 "	"

JUST A MOMENT

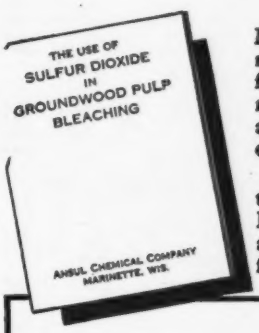
are you going to

BLEACH GROUNDWOOD PULP? *Use*

ANSUL Liquid Sulfur Dioxide

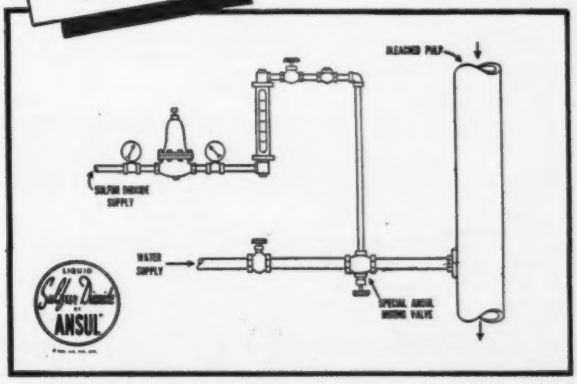
AFTER *Bleaching*

***It's* SIMPLE, INEXPENSIVE ...POSITIVE!**



Maximum permanent brightness is provided through acidification of the pulp and elimination of excess peroxide... also permits removal of colored iron compounds.

A complete, authentic treatise on the use of ANSUL Liquid Sulfur Dioxide is available to you on request. Write for it today.



Here are the advantages of using Ansul Liquid Sulfur Dioxide:

1. Combines acidifying, reducing and anti-oxidizing steps in one.
2. Eliminates the cumbersome handling of acid and salt or solutions of varying concentration.
3. Simple and positive finger-tip control which is practically automatic.
4. Immediate starting and stopping of operation with elimination of waste.
5. Reduces operating and maintenance costs.
6. Equipment is inexpensive, permanent and easy to install.
7. Guarantees absolute purity and freedom from contamination.

ANSUL CHEMICAL COMPANY
INDUSTRIAL CHEMICALS DIVISION, MARINETTE, WIS.
Eastern Office: 60 E. 42nd St., New York City

For
HIGH TINTING *STRENGTH*

USE
PARIS 2 *BLACK*

made
EXCLUSIVELY FOR PAPER
• A COLUMBIAN COLLOID •

The high tinting strength of PARIS 2 Black means less pigment to secure a desired shade. This together with exceedingly small particle size contributes to unimpaired strength in the finished stock. Other desirable characteristics are:

EASY DISPERSION
FREEDOM FROM OILINESS
UNIFORMITY

For
JET BLACK PAPERS and GRAY-TINTED STOCKS

TECHNICAL INQUIRY IS INVITED

COLUMBIAN CARBON CO. • BINNEY & SMITH CO.
MANUFACTURER — DISTRIBUTOR
41 EAST 42nd STREET • NEW YORK 17, N. Y.

Old Rags

White, No. 1—			
Repacked	3.80	@	Nominal
Miscellaneous	3.20	"	"
White, No. 2—			
Repacked	2.90	"	"
Miscellaneous	2.65	"	"
Thirds and Blues—			
Repacked	2.20	"	"
Miscellaneous	1.30	"	"
Roofing Rags—			
No. 1	1.55	"	"
No. 2	1.45	"	"
No. 3 (bagging)	1.35	"	"
No. 4	1.35	"	"
No. 5A	1.35	"	"
Old Manila Rope	5.75	"	"

Foreign Rags

(All Prices Nominal)

New Rags

New Dark Cuttings	6.00	@	Nominal
New Mixed Cuttings	6.50	"	"
New Light Silesias	5.75	"	"
Light Flannelettes	5.75	"	"
New White Cuttings	12.00-14.00		
New Light Oxfords			Nominal
New Light Prints	8.00-10.00		

Old Rags

No. 1 White Linens	8.50	@	Nominal
No. 2 White Linens	7.50	"	"
No. 3 White Linens			Nominal
No. 4 White Linens	3.25	@	Nominal
No. 1 White Cotton	4.75	"	"
No. 2 White Cotton	3.75	"	"
No. 3 White Cotton	3.00	"	"
No. 4 White Cotton	2.20	"	"
Extra Light Prints	2.40	"	"
Ord. Light Prints	5.50	"	"
Med. Light Prints	4.75	"	"
Dutch Blue Cottons			Nominal
French Blue Linens			Nominal
Checks and Blues	4.00	"	"
Linsey Garments	4.00	"	"
Dark Cottons	3.60	"	"
Old Shopperies	3.35	"	"
New Shopperies	3.50	"	"
French Blues			Nominal

BAGGING

(Prices to Mill, f.o.b. N. Y.)

Gunny No. 1—			
Foreign	4.00	@	Nominal
Domestic	3.30	"	"
Wool Tares, light	4.00-4.75		
Wool Tares, heavy	4.50	@	Nominal
Bright Bagging	3.50	"	"
Manila Rope—			
Foreign			Nominal
Domestic	5.75	@	Nominal
Jute Strings	4.50	"	"
No. 1 Sisal Strings	3.00	"	"
Mixed Strings	1.50	"	"

Waste Paper

Nominal Prices to Mills

(Dollars Per Ton)

F.o.b. New York, Baled

No. 1 Hard White Envelope Cuts, one cut	$67.50	@	—
No. 1 Hard White Envelope Cuts	62.50	"	—
No. 1 Hard White Shavings, unruled	57.50	"	—
No. 1 Hard White Shavings, ruled	50.00	"	—
Soft White Shavings, one cut	57.50	"	—
No. 1 Soft White Shavings	50.00	"	—
Soft White Shavings, Misc.	43.00	"	—
No. 1 Fly Leaf Shavings	33.50	"	—
No. 2 Fly Leaf Shavings	22.50	"	—
No. 1 Groundwood Fly Leaf Shavings	25.00	"	—
No. 2 Mixed Groundwood Fly Leaf Shavings	18.50	"	—
Mixed Colored Shavings	15.50	"	—
Mixed Groundwood Colored Shavings	18.00	"	—
Overissue Magazines	33.50	"	—
No. 1 Heavy Books & Magazines	38.50	"	—
Mixed Books	22.00	"	—
No. 1 White Ledger	46.00	"	—
No. 2 Mixed Ledger, colored	40.00	"	—
New Manila Envelope Cuttings, one cut	57.50	"	—
New Manila Envelope Cuttings	53.00	"	—
Extra Manilas	39.00	"	—
Mixed Kraft, Env. & Bag Cuttings	55.00	"	—
Kraft Envelope Cuttings	65.00	"	—
Triple Sorted, No. 1 Brown Soft Kraft	50.00	"	—
New 100% Kraft Corrugated Cuttings	45.00	"	—
No. 1 Assorted Old Kraft	35.00	"	—
New Jute Corrugated Cuttings	18.50	"	—
Old 100% Kraft Corrugated Containers	35.00	"	—
Box Board Cuttings	14.50	"	—
White Blank News	33.00	"	—
Overissue News	22.00	"	—
No. 1 News	20.00	"	—
No. 1 Mixed Paper	19.00	"	—
Old Corrugated	28.00	"	—
Mill Wrappers	22.00	"	—

Twines

All Prices Nominal

(F. o. b. Mill)

(Soft Fiber)

Coarse Polished—			
India	.26	@	—
White Hemp	.26	"	—
Fine Polished—			
Fine India	.31	"	—
Unpolished—			
Box	.20¼	"	—
Paper Makers	.20	"	—
Tube Rope	.22	"	—
Wall Paper	.23½	"	—
Wrapping	.26	"	—
Soft Fiber Rope	.22	"	—
Cotton	.28	"	—
(Hard Fiber)			
Medium Java	.23	"	—
Mex. Sisal	.21	"	—
Manila	.33	"	—

PHILADELPHIA

Domestic Rags (New)

(Price to Mill)

Shirt Cuttings—	
New White No. 1	.07¼
New White No. 2	.05¾
Light Silesias	.05¾
Black Silesias, soft	.03¾
New Unbleached	.07½
Washable Prints	.04¼
Washable No. 1	.03
Blue Overall	.05½
Cottons—According to grades—	
Washable Shredding	.01¾
Fancy Percales	.04¾
New Black Soft	.03¼
Khaki Cuttings—	
Unbleachable Cotton Cuttings	.03½
Bleachable Cotton Cuttings	.04¼
Men's Corduroy	.03½
Ladies' Corduroy	.03
Cottonades	.03¼

Domestic Rags (Old)

White No. 1—Repacked	3.80	@	—
Miscellaneous No. 1	3.20	"	—
Miscellaneous No. 2	2.65	"	—
White No. 2—Repacked	2.90	"	—
Thirds and Blues—			
Miscellaneous	1.80	"	—
Repacked	2.20	"	—
Black Stockings—			
(Export)			Nominal
Roofing Stock—			
Foreign No. 1			Nominal
Domestic No. 1	1.55	"	—
Domestic No. 2	1.45	"	—
Roofing Bagging	1.35	"	—
Old Manila Rope	5.75	"	—

Bagging

(F. o. b. Phila.)

Gunny No. 1—			
Foreign			Nominal
Domestic	3.00	@	3.50
No. 1 Clean Bright—Sisal Strings	.04	"	—
No. 2 Clean Bright—Sisal Strings	.03	"	—
Sisal Jute	.02½	"	.02¾
Scrap—			
No. 1	3.25	"	3.50
No. 2	1.75	"	1.80
Wool Tares, heavy	4.00	"	4.25
No. 1 New Light Burlap	3.00	"	4.00
New Burlap Cuttings	3.75	"	4.00

Old Papers

(F. o. b. Phila.)

OPA Maximum Prices, Baled

No. 1 Hard White Envelope Cuts, one cut	3.37½	@	—
No. 1 Hard White Shavings, unruled	2.87½	"	—
Soft White Shavings, one cut	2.50	"	—
White Blank News	1.65	"	—
Soft White Shavings, Misc.	2.15	"	—
No. 1 Mixed Paper	.95	"	—
Box Board Cuttings	.72½	"	—
Kraft Corrugated Cuttings	2.25	"	—
Old Corrugated Containers	1.40	"	—
Overissue News	1.00	"	—
No. 1 News	1.00	"	—

BOSTON

Old Papers

(F. o. b. Boston)

OPA Maximum Prices, Baled

No. 1 Hard White Shavings, unruled	2.87½	@	—
No. 1 Hard White Shavings, ruled	2.50	"	—
Soft White Shavings, Misc.	2.15	"	—
No. 1 Fly Leaf Shavings	1.67½	"	—
No. 2 Fly Leaf Shavings	1.12½	"	—
No. 1 Groundwood Fly Leaf Shavings	1.25	"	—
No. 2 Groundwood Fly Leaf Shavings	.90	"	—
Mixed Colored Shavings	.75	"	—
New Manila Envelope Cuts, one cut	2.87½	"	—
Hard White Envelope Cuts, one cut	3.37½	"	—
Triple Sorted No. 1 Brown Soft Kraft	2.50	"	—
Mixed Kraft Env. & Bag Cuttings	2.75	"	—
Kraft Envelope Cuttings	3.25	"	—
No. 1 Heavy Books & Magazines	1.92½	"	—
New Manila Envelope Cuts, one cut	2.87½	"	—
New Manila Envelope Cuttings	2.65	"	—
White and Colored Tabulating Cards	2.25	"	—
Ground Wood Tabulating Cards	1.35	"	—
White Blank News	1.65	"	—
No. 1 Assorted Old Kraft	1.75	"	—
No. 1 Mixed Paper	.95	"	—
Overissue News	1.10	"	—
Box Board Cuttings	.72½	"	—
New Corrugated Cuttings, Kraft	2.25	"	—
Old 100% Kraft Corrugated Containers	1.75	"	—
Old Corrugated Containers	1.40	"	—
Jute Corrugated Cuttings	1.07½	"	—

Bagging

(F. o. b. Boston)

Gunny Bagging—			
Foreign			(nominal)
Domestic	2.75	@	2.90
Sisal Rope No. 1	*4.75	"	—
Sisal Rope No. 2	* —	"	4.00
Mixed Rope	1.60	"	—
Transmission Rope—			
Foreign			(nominal)
Domestic	2.75	"	3.00
Manila Rope—			
Foreign			(nominal)
Domestic	5.75	"	—
Soft Jute Rope	4.50	"	5.00
Jute Carpet Threads	3.00	"	3.50
Bleachery Burlap	8.50	"	9.00
Scrap Burlap—			
Foreign			(nominal)
Domestic	3.00	"	3.25
South America	—	"	3.25
Wool Tares—			
Foreign			(nominal)
Domestic	4.25	"	—
Aust. Wool Pouches	—	"	3.65
New Zealand Wool Pouches	—	"	3.30
New Burlap Cuttings	4.75	"	5.00
Heavy Baling Bagging	4.00	"	4.25
Paper Mill Bagging	2.50	"	3.00
No. 2 Roofing Bagging	1.35	"	—

* OPA Maximum Prices.

Domestic Rags (New)

(F. o. b. Boston)

Shirt Cuttings—			
New Light Prints	.04½	@	.04¾
Fancy Percales	.04¼	"	.05
New White No. 1	.06¾	"	.07
New Light Flannelettes	.05½	"	.06
Canton Flannels, Bleached	.06	"	.06¼
Underwear Cutters, Bleached	.06¼	"	.06¾
Underwear Cutters, Unbleached	.05¾	"	.06
Silesias No. 1	.06	"	.06¼
New Black Silesias	.03	"	.03¾
Red Cotton Cuttings	.03½	"	.04
Soft Unbleached	.06½	"	.06¾
Blue Cheviots	.05½	"	.06
Fancy	.02¾	"	—
Washable	.02¾	"	—
Khaki Cuttings	.02¾	"	.03
O. D. Khaki	.03½	"	.03¾
Corduroy	.03¼	"	.03½
New Canvas	.06¼	"	.06½
B. V. D. Cuttings	.06¼	"	.06½

Domestic Rags (Old)

(F. o. b. Boston)

White No. 1—Repacked	3.80	@	—*
Miscellaneous	3.20	"	—*
White No. 2—Miscellaneous	2.65	"	—*
Twos and Blues, Repacked	2.20	"	—*
Old Blue Overalls	2.25	"	2.50
Thirds and Blues, Repacked	2.20	"	—*
Miscellaneous	1.80	"	—*
Black Stockings	3.50	"	4.00
Roofing Stock—			
No. 1	1.55	"	—*
No. 2	1.45	"	—*
No. 3	1.35	"	—*
No. 4	1.35	"	—*
No. 5, Quality A	1.35	"	—*
Quality B	1.20	"	—*
Quality C	.95	"	—*
Old Manila Rope	5.75	"	—*

* OPA Maximum Prices.

Foreign Rags

(F. o. b. Boston)

Canvas	(nominal)
Dark Cottons	(nominal)
Dutch Blues	(nominal)
New Checks and Blues	(nominal)
Old Fustians	(nominal)
Old Linsey Garments	(nominal)
New Silesias	(nominal)

CHICAGO

Waste Paper

(F. o. b. Chicago)

OPA Maximum Prices, Baled

Shavings—			
No. 1 Hard White Envelope Cuts, one cut	3.37½	@	—
No. 1 Hard White Shavings, unruled	2.87½	"	—
No. 1 Soft White Shavings	2.50	"	—
Misc.	2.15	"	—
No. 1 White Ledger	2.30	"	—
No. 2 Ledger, colored	2.00	"	—
No. 1 Heavy Books & Magazines	1.92½	"	—
Overissue Magazines	1.67½	"	—
New Manila Envelope Cuttings	2.65	"	—
No. 1 Assorted Old Kraft	1.75	"	—
No. 1 Mixed Paper	.95	"	—
Box Board Cuttings	.72½	"	—
Kraft Corrugated Cuttings	2.25	"	—
Old Corrugated Containers	1.40	"	—
Overissue News	1.00	"	—
No. 1 News	1.00	"	—
No. 1 White Ledger	2.30	"	—
No. 1 Heavy Books & Magazines	1.92½	"	—
White Blank News	1.65	"	—
Mixed Kraft Env. & Bag Cuttings	2.75	"	—
No. 1 Assorted Old Kraft	1.75	"	—
Overissue News	1.10	"	—
No. 1 News	1.00	"	—
No. 1 Mixed Paper	.95	"	—
No. 1 Roofing Rags	1.55	"	—
No. 1 Roofing Bags	1.45	"	—

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Chemical Pulp Mill Engineers
500 Woolworth Building, Watertown, N. Y.
ASSOCIATED WITH CHEMIPULP PROCESS LIMITED, MONTREAL, QUE.

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FRICTION CLUTCHES
The MOORE & WHITE Co.
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CENTRIFUGAL BLOWERS AND COMPRESSORS — MIXED-FLOW PUMPS
DE LAVAL-IMO OIL PUMPS
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You can get uniform sizing regardless of stock or water temperatures or chemical impurities
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CAMACHINE 18, a *fast* winding unit for shipping, bag, board and counter rolls, etc. Produces perfect rolls right off the end of the paper machine. Keeps well ahead of the fastest paper or board machine.
WRITE FOR THIS FOLDER
CAMERON MACHINE COMPANY 61 POPLAR STREET, BROOKLYN 2, N. Y.

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HELP WANTED—5c a word. Double rate for heavy face type. Minimum charge $1.25.
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Address replies to advertisements appearing under Box numbers in care of
PAPER TRADE JOURNAL, 15 West 47th Street, New York 19, N. Y.

Copy for Classified Advertisements must be in our office on Monday preceding publication

HELP WANTED

Superintendent — Mechanical Engineer preferred—to take charge of large Paper Bag Manufacturing Plant in N. Y. City. Prefer man who has had experience in this line. Age 35 to 45 years. Must be capable of handling labor, etc.
State qualifications and salary required. Excellent future for right man.
Address Box 46-462 care Paper Trade Journal. S-5

WANTED

Tour Boss, Machine Tenders, Back Tenders, Third Hands, familiar with manufacturing toilet, napkin, facial tissue, in an Eastern mill. Reply to box—46-466 care Paper Trade Journal. S-12

SALARIED POSITIONS

$2,400-$25,000. This thoroughly organized confidential service of 36 years' recognized standing and reputation carries on preliminary negotiations for supervisory, technical and executive positions of the caliber indicated. Retaining fee protected by refund provision. Identity covered and present position protected. Send only name and address for details.

R. W. BIXBY, INC.
117 Dun Bldg., Buffalo 2, N. Y.

PROCESS ENGINEER
Wanted

With wide experience in pulp and paper making processes. Must be able to develop flow diagrams and specify related equipment. Excellent opportunity for the right man. Please furnish complete experience record.
Address Box 46-261 care Paper Trade Journal. TF

NOTICE

R. W. (Bob) Stevens is now recruiting an entire operating staff for a completely new paperboard mill in Los Angeles, California. Want superintendent, papermakers and maintenance men. Interested parties write air-mail giving full particulars in first letter to R. W. Stevens, 920 De La Fuente St., Monterey Park, Calif. Exceptionally good wages and working conditions. A-22

WANTED—Master Mechanic for one Machine Mill making folding grades. Excellent opportunity for right man. Good salary plus a bonus. Address Box 46-527 care Paper Trade Journal. A-29

ASSISTANT SUPERINTENDENT of maintenance with paper mill experience, knowledge of power and electricity necessary. Must be college graduate. Give full information including experience and age. Address Box 46-588 care Paper Trade Journal. S-12

BOOKKEEPER, Accounting background, good future, permanent. Address Box 46-591 care Paper Trade Journal. A-22

WANTED—Tour Boss experienced on folding grades. Good salary plus a bonus. Address Box 46-528 care Paper Trade Journal. A-29

HELP WANTED

CHARLES P. RAYMOND SERVICE, Inc.
294 Washington St., Boston, Mass.
Specializing in Paper Mill Personnel
Positions Now Open
SALES TRAINING DIRECTOR Mid-West $7500-10,000 year
SUPT. CYL. chip manilla boards
SUPT. wet machine binder & fibre boards
TOUR BOSS ROOFING FELT
BEATER ENGINEER rag, bonds, ledgers
Div. Machine Shop Supervisor not over 45 years old
MECHANICAL ENGINEERS
We invite correspondence (strictly confidential) with paper and pulp mill executives seeking new positions and with employers seeking new personnel. A-22

DEVELOPMENT MACHINE SHOP SUPERVISOR

To supervise small machine shop engaged in the development and production of paper making and converting equipment with well established progressive nationally known paper company. Technical education or training desirable but practical experience most important. Must have thorough knowledge machine tools, operation of machine shop equipment and ability to handle men. Good salary. Only well qualified persons willing to locate in the New York area need apply.

Address J-64 P. O. Box 3552
Philadelphia 22, Penna.
A-22

$6,000 to $10,000 annually for Paper Mill Engineers who can qualify.

(a) Operations and process engineer with technical plant experience in general paper and board plants.

(b) Engineer and project man capable of coordinating the design and construction of paper and board making facilities including writing specifications and purchase of equipment. Experience with consulting engineer highly desirable.

Give complete details in first letter including age, education, record of experience and earnings. Salary expected, when available for interview. Box 46-582 care Paper Trade Journal. S-12

WANTED
TOUR BOSS

Experienced in Roofing Felt Mill operations, to be trained for Assistant Superintendent job in New Orleans Plant of long established nation-wide organization. Send complete resume giving experience, education, salary expected, etc., to Box 46-556 care Paper Trade Journal. A-22

WANTED IMMEDIATELY—Backtender for Fourdrinier Kraft machine 88" width at 600 ft. per minute. Job is steady at 40 hours plus per week. Western Pennsylvania location. Rate $1.20 per hour. Address Box 46-511 care Paper Trade Journal. A-22

WANTED—TOUR BOSS for prominent New England Mill with two board machines, manufacturing high grade folding box board. Permanent position. Write, giving age, qualifications and salary expected in first letter. Address Box 46-521 care Paper Trade Journal. TF

WANTED — Progressive Mill with expansion program under way is in need of a man familiar with the receiving and handling of paper stocks and pulps used in the manufacture of folding boxboards. Excellent opportunity for the right man. Address Box 46-526 care Paper Trade Journal. A-29

WANTED—Cylinder Machine Tender familiar with folding grades. Good hourly rate plus a bonus, with opportunity for advancement. Address Box 46-529 care Paper Trade Journal. A-29

HELP WANTED

Wanted—Paper man, 22 to 35, with production or technical experience, for sales-service work. Box No. 46-581 care Paper Trade Journal. S-12

WANTED—Plant Engineer to take charge of steam and electric power and general maintenance for a New England pulp and paper mill producing over 100 tons of fine papers per day. All members of our organization know of this advertisement. Address Box 46-552 care Paper Trade Journal. A-29

SUPERINTENDENT — Experienced specialty bag plant Philadelphia vicinity. Replies confidential. Address Box 46-570 care Paper Trade Journal. S-5

HELP WANTED. Chemist or Chemical Engineer with experience in paper machines, sizing, coatings, etc. to work on research and development for chemical manufacturer. Send full particulars of age, experience, education, date available and salary desired. Address Box 46-578 care Paper Trade Journal. A-29

SITUATIONS WANTED

PRODUCTION SUPERINTENDENT

Chemical Engineer with 15 years practical experience in the technical control and production of various grades of papers, desires new connections. Address Box 46-561 care Paper Trade Journal. A-22

MILL REPRESENTATIVE covering the jobbing and direct trade for the past 15 years from Pennsylvania through to the Carolinas, now desires to operate over the same territories with 2 or 3 non-conflicting lines. What have you to offer? Address Box 46-412 care Paper Trade Journal. TF

POSITIONS WANTED—General Superintendent wishes to make change. Expert on ground wood and sulphite specialties. Book, Bond, Ledger and Cat. 19 to 100# and machine coating. Also beater and coating colors. Will go anywhere at once. Age 44. Well up on technical control. Address Box 46-579 care Paper Trade Journal. S-12

INDUSTRIAL ENGINEER—Wide experience in manufacture and development of specialties for shoe, electrical, sanitary container and other converting industries. Desires position part or full time basis. Address Box 46-584 care Paper Trade Journal. S-5

BOARD MILL SUPERINTENDENT—Desires position as Superintendent or assistant general superintendent. Ten years experience in production and industrial engineering. Chemical engineering background. Location secondary to opportunity and responsibility offered. Address Box 46-575 care Paper Trade Journal. A-22

PRACTICAL WORKING MASTER MECHANIC—General all around machinist and millwright. 35 years experience—15 years in Paper Mills. Trade school education. Metropolitan area of New York City or Philadelphia, Pa., preferred. Address Box 46-559 care Paper Trade Journal. S-5

MANY YEARS EXPERIENCE as Chemist and Superintendent in web printing (rotogravure and letterpress) and fancy coated paper plants. Address Box 46-592 care Paper Trade Journal. S-5

PAPER TECHNOLOGIST—B.S., '43 graduate, New York State College of Forestry. Veteran, 2 years varied experience paper and plastics. Single. Energetic, Personable. Willing to travel. Available immediately. Address Box 46-590 care Paper Trade Journal. A-22

Portmanteau or brief case. It is for you to choose.

Black-Clawson representatives on routine calls either carry their "facts and figures" in their heads or arrive with enough material to fill a portmanteau, most of it of no immediate interest to the mill.

How much better to anticipate such calls with inquiries on subjects of particular and immediate interest. Given such "leads" your visitor can arrive, not laden down with miscellaneous data, but fully armed with the particular information in which you are interested. Thus he can serve you with "to-the-point" brief case efficiency

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Middletown, Ohio

DILTS MACHINE WORKS, FULTON, NEW YORK

Divisions of The Black-Clawson Co., Hamilton, Ohio

ASSOCIATE: ALEXANDER FLECK LIMITED, *Ottawa, Canada*

SITUATIONS WANTED

RESEARCH ENGINEER with years of valuable experience in pulp, paper, board, specialties and mill equipment is available for responsible job in production or technical direction. Address Box 46-558 care Paper Trade Journal. A-29

CHEMIST—Research, control, development. 8 years experience. Young, family, willing and conscientious worker. Employed, not looking for just another job but THE JOB. Background of coating, sizing and adhesives work with vegetable protein and resinous materials. Interested in development or production job of responsible nature. Address Box 46-557 care Paper Trade Journal. A-29

PAPER MAKER and MECHANIC—Twenty-six years experience operating, maintenance and installing, cylinder, fourdrinier their auxiliary and converting equipment. References. Address Box 46-549 care Paper Trade Journal. S-5

SUPERINTENDENT—30 years experience in paper towels, napkins and toilet tissues. Can furnish the best of references. Available at once. Address Box 46-547 care Paper Trade Journal. S-5

SUPERINTENDENT—Practical Paper Maker with engineering background. Capable of producing cylinder grades from Plain Chip to Bristols and can revamp or start off new mills. Address Box 46-544 care Paper Trade Journal. A-29

SITUATIONS WANTED

MECHANIC — Erecting, reconditioning fourdrinier and cylinder machines, auxiliary and converting equipment. References. Address Box 46-550 care Paper Trade Journal. S-5

JUNIOR CHEMIST—4 years experience in development on coatings, adhesives and related products. Presently employed, but immediately available. Development work preferred. Address Box 46-543 care Paper Trade Journal. A-22

INSTRUMENT ENGINEER desires position as staff instrument engineer with a large pulp and paper mill. Graduate engineer with eight years experience in process instrumentation. Two years directly connected with the pulp and paper industry. Address Box 46-567 care Paper Trade Journal. S-5

FOR SALE

FOR SALE
DEINKED PULP
Address Box 46-542 care Paper Trade Journal. S-5

FOR SALE

FOR SALE
Barrett - Craven and Lewis - Shephard Lift Trucks, in excellent condition, 3,500# and 5,000# capacities, 7″ high in lowered position, 3″ and 4″ lifts.

EMPIRE BOX CORPORATION
Garfield, New Jersey

TF

FOR SALE

BEATERS
1—2000 lb. Holyoke-Iron Tub Beater.
2—1200 lb. E. D. Jones (no tubs).
1—1000 lb. Dayton Beater (no tub).
1—1000 lb. Stout & Mills Iron Tub Beater.
1—400 lb. Gavit—iron tub beater.
1—Breaker Beater—Dilts Bandless Roll 62″ diameter x 54″ face—70 tons daily capacity. Equipped with Shartle Bros. Ragger.
1—Breaker Beater—New Perforated Backfall—48″ face roll x 54″ diameter—no tub.

CALENDER STACKS
1—5 roll 84″ face—Farrel.
1—6 roll—72″ face.
1—7-roll 36″ Holyoke Machine. (supercalender)

CENTRAP
1—Shartle Brothers Centrap.

COATING MACHINES
1—70″ Waldron Brush Coater.
1—26″ six roll coating machine.

COUCH ROLLS
2—82″ face x 12″ diameter.

CYLINDER MOULDS
2—30″ diameter x 74″ face.
2—30″ diameter x 54″ face.
1—30″ diameter x 75″ face.
1—36″ diameter x 84″ face.

DOCTORS
14—Dillon Doctors—complete with accessories—98″ face.

DRIVES
4—Smith & Winchester Drives.
1—Moore & White mortise gear drive.
1—D. O. James 75 H.P. Speed Reducer with couplings and motor base. Ratio 2.16 to 1. 900 RPM to 418 RPM.
7—D. O. James Angle Drives—11 to 1—12 to 18 h.p.

DRYERS
1—48″ diameter x 94″ face.
1—24″ diameter x 84″ face. (Baby)
2—36″ diameter x 64″ face, with frames gears and bearings.
2—25″ x 120″ (Baby Dryers).
2—30″ x 120″.
1—48″ x 100″.
11—30″ x 80″. (Steel Dryers).
5—24″ x 76″. (Steel Dryers).
2—36″ diameter x 38″ face.

ERKENSATORS
2—I. W. E. Erkensators—bronze construction—complete with motors, starters and distributing box.

FLAT SCREENS
1—12 plate Murray Dunbar Flat Screen.
1—4 plate Flat Screen.

HYDRAFINER
1—Shartle Bros. Hydrafiner.

JORDANS
1—No. 2 Miami Jordan.
1—No. 9 Emerson Jordan—for direct connection to a motor.
1—Noble and Wood, Monarch, new fillings.

LABORATORY EQUIPMENT
2—Mullen Testers.

MOTOR
1—25 h.p. motor, including starting equipment.

PRESS ROLLS (Rubber Covered)
1—27½″ diameter x 186″ face.
1—26″ diameter x 185″ face.

PULP EQUIPMENT
1—32″ three pocket Glens Falls Grinder (for 27″ wood).

PULP SCREEN
1—IMPCO centrifugal pulp screen design No. 3.

PULPER
1—Jones Pulper.

PUMPS
1—10 x 11 Connersville Vacuum Pump.
1—10 x 7½ Connersville Vacuum Pump.
1—No. 4 Connersville Vacuum Pump.
1—6 x 2L Connersville Vacuum Pump.
1—No. 7 Sturtevant Vacuum Pump.
1—Buffalo Pump—5500 g.p.m. direct connected to 100 H.P. Motor (50′ head).
Various sizes of Centrifugal and Plunger Pumps. Write us regarding your particular requirements.

RAG CUTTER
1—Taylor Stiles, 14″, Little Giant.

REDUCERS
3—Westinghouse Gear Motors—25 h.p.—115 output r.p.m.—3/60/440.
1—Master Gear Motor—15 h.p.—193 output r.p.m.—3/60/220-440.
1—Master Gear Motor—10 h.p.—153 output r.p.m.—3/60/220-440.

REELS
1—72″ Downingtown Expansion Reel.
1—2 Bowl Reel — 112″ face — bowls 20″ diameter.
1—2 Bowl Reel—110″ face.
1—Set Stack Reels, capacity trim 143″.

ROLLS
500—Brass tube—steel tube—rubber covered iron rolls—various sizes.

ROTARY SCREENS
4—#2A Bird Rotary Screens, with motors.
3—Moore & White Rotary Screens (alternating diaphragm type).

SAVEALL
1—Saveall 36″ diameter x 96″ face cylinder mold. (With iron end vat.)
1—Saveall 36″ diameter x 96″ face cylinder mold. (With wood vat.)

SCREW PRESS
1—Valley Iron Screw Press.

SCREEN PLATES
36 plates—43 x 11 1/16″—.050 cut—bevel edges.
24 plates—Recently recut .008.
12 plates—Recently recut .035.
Also other sizes and cuts in stock.

SHREDDERS
1—No. 25 CRSE Mitts & Merrill Hog.
1—Gilman Shredder.
1—Waterville Shredder.

SHEETERS
1—84″ Finlay Sheeter, Erie Layboy and 9 roll backstand.
1—128″ Moore & White Sheeter with layboy.
1—48″ Langston heavy duty chopper (this is a combination machine, combining a slitter, scorer, sheeter and chopper.)

SLITTERS AND WINDERS
1—52″ Johnstone Slitter & Winder.
1—36″ Beck Razor Blade type Slitter & Winder.
1—60″ Moore & White Slitter and Winder set for 5/8″ slits.
1—60″ Moore & White Slitter and Winder set for 7/16″ slits.
1—120″ Moore & White 4 drum slitter.
1—80″ 2 drum Warren Winder.

STOCK PUMPS
1—12 x 20 Triplex Shartle.
1—10 x 20 Duplex Shartle Brothers.
1—10 x 12 open impeller. (All lead).
Numerous other Centrifugal Stock Pumps. Advise as to your requirements.

SUCTION BOX
1—Nash 100″ face Suction Box.

VACUUM PUMPS
4—Nash Vacuum Pumps (H-5).

V-BELT DRIVES
1—{23″ diameter x 14″ face, 10 grooves.
{15″ diameter x 14″ face, 10 grooves.

WET MACHINE
1—74″ Moore & White.

We are always in the market to purchase your surplus or idle machinery. What have you to offer? Wanted Cylinder and Fourdrinier Machines (complete mills).

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PAPER MAKING EQUIPMENT

NEW, USED, REBUILT
PAPER AND PULP MACHINERY

1—Shartle Brothers 2 cylinders—120" machine. (Can supply four additional cylinders and vats). Machine includes:—2 pairs of baby presses, 3 pairs of primary presses, 2 pairs of main presses, 27 dryers 36" diameter x 115¼" face—3 deck—spare cylinder mould and couch. Drives, stands, line shaft and pulleys. Blue prints available.

1—Farrel Birmingham 16" Asphalt Extruder Complete.—Used 7 months.

AIR HOISTS
2—Two-Ton Ingersoll Rand
2—Five-Ton Ingersoll Rand

BEATERS
2—1000 lb. Horse Iron Tub.
1—1200 lb. Holyoke Wood Tub.
2—Valley Iron 750 lbs. Iron Tub Beaters, with Silent Link Belt Drive.

BIRD SCREEN PLATE
17 Plate—60 cut. New condition.

BLOWERS
1—American ball bearing blower, size 17" x 23" for motor drive.
1—American Blower, size 40. For belt drive.

CALENDER DOCTORS
1 set of 16 Warren Doctors 104" face with frames.
60 Warren Doctors—various sizes.

CALENDER ROLLS
30 rolls various sizes

CALENDER STACKS
1—6 roll Beloit, 110" face.
2—2 roll Holyoke 36" face.
1—9 roll Moore & White—82" face.

CONVERTING EQUIPMENT
4—Sanitary Napkin Machines. With motors and starters.
1—Stiles Double Head Stitcher.
4—Waterylite Grinders.
1—36" Waldron Reeling Machine.
1—32" Dampening Machine.
1—36" Brush Coating Machine.
1—Copper Mixing Tank with agitator—48 gal.
1—Cast Iron Kettle 28" x 24" 2 outlets.

CREPING MACHINE
1—Complete Bagley & Sewall Creping Machine. Dryer 100" face x 48" diameter. Ball bearing equipped. Used 6 months.

CYLINDER MOLDS
3—Impco—84" face—40" diameter with stainless steel face wire
2—110" face x 36" dia.
1—90" face x 36" diameter—with ball bearings and cast iron end vats.
6—84" face x 36" diameter.
4—Cylinder Molds—cast iron end vats—cylinders 120" face x 36" diameter. Ball bearing.

DANDY ROLLS
2—122" face 19" dia.
1—138" face 12" dia.
1—129" face 9½" dia.

DRIVES
1—Falk 25 h.p.—7.5 to 1.—1750 r.p.m.

DRYER DOCTORS
40—Warren Doctors. Various sizes.

DRYERS
72—48" Dia. x 48" Face, Chromium Plated.
2—24" Dia. x 48" Face.

ELECTRIC HOIST
1—Sprague Electric 3 ton hoist—5 h.p. 3 phase —60 cycle—110 volts.

FLAT SCREENS
1—8 plate Sandy Hill Packer—roller shoes.
1—10 plate Packer screen with scraper.

FOURDRINIER SHAKES
1—Beloit Fourdrinier Shakes.
1—Sandy Hill Bertram Shake. Late type.

FOURDRINIER WET END
1—120" Beloit Fourdrinier Wet End.
1—74" Pusey & Jones Wet End.

GRANITE ROLLS
2—112" face 29" diameter.

HAMMERMILLS
1—American Hammermill—37" anti friction bearing equipped.
1—Jeffrey Swing Hammer size 18"x24"—Type A.
1—Williams 18" Hammermill Ball Bearing.

HOG
1—Mitts & Merrill Hog. Number 5252.

JORDANS
2—E. D. Jones Magestic Jordans, with one new set of fillings for both plugs and shell—belt drives.
2—#2 Miami Jordans—motor driven.
1—Emerson Pony Jordan with spare plug—motor drive.

MISCELLANEOUS
2—Nugent Oil Filters (new).
1 Shartle Brothers cast iron Riffler or Settling Trough, 72' long, 6'7" wide.

PLATERS
2—Holyoke 2 Roll 18" dia. 36" face.

PULLEYS
60—Cone Split and Solid Cast Iron Pulleys. Various Sizes.

PULP EQUIPMENT
1—125" face Kamyr Press.
1—84" Sumner Disc Barker with motor.

PULPERS
1—Voith Pulper 20 tons cap.

PUMPS
4—Worthington Pumps 10,000 g.p.m.—35' head. Requires 75 h.p. at 550 r.p.m.
1—DeLaval 6" x 6".
1—DeLaval 1800 g.p.m. 30' Head, 500 r.p.m.—8" Suction—10" Discharge, Ball Bearing—Belt Driven—or for Direct Connection to Motor. Open Impeller.
11—Worthington Close Coupled Centrifugal Pumps, 6" x 6" 650 g.p.m., 25' head. 6 h.p. Star Electric splash proof motor. 1750 r.p.m. 440 volt, 3 ph.-60 cycle, ball bearing.
16—Warren Vertical Pumps. 6" suction. 3" discharge. 135 g.p.m. 80' head. Direct Connected 6 h.p. General Electric motor. 1750 r.p.m. 440 volts, 3 ph.-60 cycle, ball bearing.
1—Warren Close Coupled Centrifugal Pump. 3" suction. 2" discharge. 60 g.p.m. 90' head. 6 h.p. General Electric 1750 r.p.m. 440 volts, 3 ph-60 cycle, ball bearing. All the above pumps and motors are in excellent condition and are of bronze construction.
2—Worthington 3". 2 stage, 200 g.p.m. 224' head. Bronze Ball Bearings.
1—Worthington 400 g.p.m. 35' head 1750 r.p.m. Ball bearing.
1—15" Buffalo—4000 g.p.m.—70' head. For direct connection to motor.
2—La Bour Company self priming ball bearing pumps, 2½" suction, 2½" discharge. 150 g.p.m.—30' head with extended base for motor.
1—Domestic Pump ball bearing—250 g.p.m., 4" suction, 3" discharge—30' head with extended base for motor.
1—Marlo ball bearing pump—420 g.p.m.—100' head, 4½" suction, 3" discharge. With extended base for motor.

REELS
1—Black-Clawson 2 Bowl—120" face. Takes 50" diameter roll.

REFINERS
2—#1 Claflin Refiners. Bronze construction

ROLLS
40—Table, Dress, Felt, Wire, Breast and Calender Rolls. Various Sizes.

ROTARY COOKER
1—Rotary Cooker—6' dia. x 21' long—complete with drive.

ROTARY SCREENS
2—#2 Bird with copper vats.
2—#1 Bird with steel vats, lead lined.
1—Moore & White.

RUBBER COUCH
1—82" face x 18" diameter.

RUBBER PRESS ROLLS
1—185" Face—26" Diameter } Used 28 Days
1—186" Face—27½" Diameter }
1—119" Face—19½" Diameter.
1—109" Face—17½" Diameter.
1—120" Face—19" Diameter.
1—119" Face—18" Diameter.
1—129" Face—18" Diameter.
1—107" Face—18" Diameter.
1—108" Face—18¼" Diameter.

SAVEALLS
1—A. D. Wood cylinder 48" dia. 60" face.
1—Darr Company No. 40 ADKA Saveall 340-440 GPM. Used 1 month.

SCREW PRESS
1—Valley Iron Screw Press. Used 2 years.

SHEETERS
1—60" Beloit Single Knife heavy duty.

SHREDDERS
2—24" Sprout Waldron heavy duty shredders—anti friction bearing equipped.
1—Taylor Stiles Portable Pulp Shredder.

SLITTERS AND WINDERS
82" Warren two drum—fully rebuilt.
1—41" Waldron Slitter and rewinder. Roll embossing attachment.

STUFF PUMPS
1—12" x 20" Shartle triplex.
2—4" x 10" Shartle Duplex direct connected to 3 h.p. gear head motors.

SUCTION BOXES
4—Brass Suction Boxes—116" face—8" wide—adjustable.
1—Brass Suction Box—126" face—8" wide—adjustable.

SUPERCALENDER STACKS
1—7 roll Norwood 72" face; 4 paper and 3 iron rolls. 1 new spare paper roll.
1—7 roll Norwood 52" face; 3 paper and 4 iron rolls. 1 new spare paper roll.
1—9 roll Norwood 83" face. Bottom roll 24" diameter. Top roll 20" diameter.

TURBINES
2—General Electric Turbine Paper Machine Drive 250 h.p.—350 r.p.m. 125 lb. steam pressure 30 lb back pressure.

UNWINDERS
1—42" John Waldron Unwinder. Used 1 year.

VACUUM PUMPS
3—14" x 20" Connersville.

WET MACHINES
1—76" Pusey & Jones Cylinder Mould, 70" face —36" diameter with rubber couch, 16" dia
1—IMPCO Wet Machine—Cylinder 84" x 48" diameter. Newly rebuilt. Hydraulic Operated.

YANKEE DRYERS
2—Beloit 8' dia. x 175" face—75# working pressure.
1—Beloit 5' dia. x 194" face—75# working pressure.

THE ABOVE IS A PARTIAL LIST OF EQUIPMENT OFFERED FOR SALE.

AMERICA'S LARGEST BUYERS OF PAPER MAKING MACHINERY

We buy single items to complete Pulp and Paper Mills.

PAPER MACHINES FOR SALE

1—156" Beloit Fourdrinier with Voith high-pressure inlet 32 Table rolls 5" dia., 5 suction boxes, Beloit shake. 3 — Main presses with wet broke carriers, frames, brass covered felt rolls, stretches, etc.

28—Dryers 48" dia., 154" face

2—Felt dryers 36" x 154" face

1—Baby dryer 24" x 154"

Complete with gears, bearings, dryer felt rolls for top and bottom dryer felts, Sheehan carriers for first section.

1—Set two-spool reels, friction drive

7—Angle drives with all lineshaft, taper pulleys

This machine is now running 450 F.P.M. on high grade papers and can be seen in operation. It will be available for October delivery.

1—138" Beloit Fourdrinier with Voith high-pressure inlet 36 table rolls 4" dia., 5 suction boxes, Beloit shake. Two main presses complete with frames, felt rolls, stretches, etc.

31—Dryers 48" dia., 138" face. 2—Felt dryers 36" x 138" face, 1—Baby dryer 24" dia., 138" face complete with gears and bearings, dryer felt rolls for top and bottom dryer felts, Sheehan carriers for first section of dryers. 1—Set two-spool reels with friction drive, 6 angle drives complete with clutches. The above machine will be available approximately April 1, 1947.

5—Shartle Breaker Beaters used less 1 year, cast iron tub 39' long, 15' wide, Roll 80" x 54", anti-friction bearings, Pulley 96" x 22", ready for immediate shipment

2—Dillon No. 1 Jordans fully reconditioned arranged for belt drive or will furnish pin type couplings if desired.

1—8" Weiner Refiner. This unit is like new as it has been used for experiment purposes only.

4—2A Bird Screens, copper vats, plates cut .012. Excellent condition.

2—Beloit 10 x 11" Triplex Plunger stock Pump

2—Shartle 8 x 18" Triplex Plunger stock Pump

1—Downingtown 8 x 18" Triplex Plunger stock Pump

20—New Gould all bronze centrifugal Pumps, 350 GPM, 60 ft. head at 1750 R.P.M.

6—Gould bronze body 2½" x 2" pressure Pumps, 100 GPM, 104 head, direct connected to 5 H.P. G.E. Motors

2—108" Pusey & Jones double drum Winders, complete with slitter attachment, will wind 60" dia. rolls.

1—Moore & White 4-drum Winder 96" face

1—Moore & White Slitter, 96" face

500 ft. Aluminum Tubing (new), 4" inside diameter.

400 ft. 3" Phosphor bronze Pipe

1—Double leather belt 85 ft. long, 22" wide. This belting is like new as it was used less than one year.

"Every pound of paper is made on used equipment." We have the largest stock of used paper mill equipment in the U.S.A.

Osborne Paper Mill Equipment Co.
Fulton, N. Y. **A-22**

FOR SALE

FRANK H. DAVIS CO.,
ESTABLISHED 889
USED AND REBUILT PAPER MACHINERY

FOR SALE

BARKERS
1—48" Waterville

BEATERS
1—Horne Patent, Roll 60x60, bronze bars
2—52x52 Downingtown iron tub
1—44x44 Horne iron tub

CUTTERS
1—110 Hamblet Duplex: 53" Hamblet—2 Whitin Foil Cutters
1—84" Clark with M. & W. Laybey 1—63 Beloit
1—Taylor style Rag Cutter
1—S & W 63" "Undercut" Ream Cutter

DECKERS
1—30"x95" B & C and 1—48"x100" Improved

DRYERS
1—6'x86", 1—6'x102", 106' and 106"
2—8'x175", 1—5'x194", new 1939

JORDANS
2—Union Standard for motor drive
1—N O W Pony Monarch: 1 Claflin #2

FANS
2—Buffalo double Turbo 6½ Conoidol forced draft fans

FOURDRINIER PARTS
22000 C F M 6" state pressure
1—R B O F wire 100x31 rebuilt
1—P & J wire 133x61'2" now running at 500 F P M

LOCOMOTIVE
1—Alliance also 7000 feet of 60 lb. track with connections

MIXER AND COOKER
1—25 gallon cooker #75

PULPERS
2—Jones with Talk Reducers and motors 440 volts, 3 phase 60 cycle
1—Lannoye #2

SCREENS
2—Moore & White #2; 1 Liethwalk
2—6 plate—6—12 plate and 6 new 14 plate, flat

SHREDDERS
2—Mitts Merrill #15 C.F. direct cont. to 125 H.P. 440 v. Motor
1—Waterville; 1—Carthage; 1—Rythor & Pringle; Mitts Merrill type 14A P E S #C 19026—12—44 never used.

SLITTERS
1—26" Kidder 2 drum
1—114 N. & W. 4 drum winds 60" roll

WASHERS
2—2000 lb. Union Mach. Steel tubs
Cal. 1—52" Textile Super Cal.

WINDER
1—50" Cannard

PUMP
1—10x10 Beloit Triplex stuff.

Builders of
ASPHALT COATING, COMBINING MACHINE, GUMMING AND CREPING MACHINE, ROLL GRINDER

FRANK H. DAVIS COMPANY
175 Richdale Ave., Cambridge, Mass. A-22

FOR SALE

New brass covered felt or wire rolls 6½" dia., 84 to 120" face. These are made from government surplus and are new in all respects.

Osborne Paper Mill Equipment Co.
Fulton, N. Y. TF

FOR SALE

Two brand new 28-F Hudson Sharp facial tissue folders to take 45" paper. Complete with a cutting table and motors. Address Box 46-553 care Paper Trade Journal. A-22

PAPER COATING MACHINERY — Waxing, Oiling, Gumming, Gluing, Carbon, Laboratory Coating and Treating Machines. High speed. New improvement. MAYER MACHINE COMPANY, Inc., 1155 Scottsville Road, Rochester, 11, N. Y. TF

FOR SALE

REVAMPING AND REBUILDING MILL AND CAN OFFER FOR SALE

1—Noble & Wood Mammoth Jr. Jordan ¼" Filling. Now operating.
1—Brass covered finishing press roll—17¾" diameter x 89½" face.
1—4000# Capacity motor driven freight elevator with automatic stop control—can be inspected in operation at our plant.
1—6" Lawrence Centrifugal Water pump.
2—8" Barnes Centrifugal Sawage Pumps.
8—100" Screen plates for No. 2-A Bird Screen. Slots. .022—never used after being recut once.
1—Rubber covered press roll 12" diameter by 68" face—Journals 5" diameter by 7¼" long.
1—Rubber covered press roll 12" diameter by 84½" face—Journals 5" diameter by 7¼" long.
1—20" face cast iron tapered pulley—2 15/16" Bore, Taper 31"-29½".
2—20" face cast iron tapered pulley—3 7/16" Bore, Taper 31"-30".
1—24" face cast iron tapered pulley—3 7/16" Bore, Tapered 31½"-29½".
2—Steel split pulleys 60" diameter by 31" face —5 15/16" bore.
1—Cast iron split pulley—60" diameter by 21" face by 3½" bore.
1—Cast iron split pulley—40½" diameter by 21" face by 3½" bore.
1—Cast iron split pulley—84" diameter by 36" face by 5 15/16" bore.
1—Cast iron split pulley—72" diameter by 18" face by 16" face by 8½" bore.
2 —Steel split pulleys—60" diameter by 41" face by 5 15/16" bore.
1—Paper pulley—24" diameter by 21" face by 4½" bore.
1—Tapered cast iron split pulley, Taper 30" to 28½" by 20" face by 3 15/16" bore.
1—30" x 90" Cylinder mould—7" diameter shaft inside cylinder.
1 9½" diameter x 85" Face Rubber-covered squeeze or wringer roll-Journals 1 15/16" diameter.
1—9" diameter x 88" Face Calender roll—5" diameter journals.
12—6½" dia. x 92" face steel drier felt rolls with 1 7/16" x 6½" Journals.
2—4" Gould centrifugal stock pumps with 2 vane open impeller. Capacity 600 G.P.M. at 40' head—1175 R.P.M. with 10 H.P. Operated less than two years.
2 —Pair Noble & Wood lighter stands complete with lighter beams and bearings for 8" diameter journal beater roll.

A visit to the mill would prove profitable as we have many items for sale too numerous to mention. See our superintendent, Mr. O. P. Fussell at our plant in Walloomsac, N. Y.

WALLOOMSAC PAPER MILLS, INC.
Mills: Walloomsac, New York
Main Office: 25 Vanderbilt Avenue
New York 17, N. Y. TF

1—24" Standard Fales Slitter and Rewinder equipped to slit ¼" widths all the way across web.
1—30" Late type Model D Fales Slitter and Rewinder equipptd with knife setups to cut following widths: ¼, 9/32, 5/16, 11/32, ⅜, 13/32, 7/16 and ½ inches.
1—68" Type 40B Hudson Sharp Toilet Paper Converter. Perforates 5" lengths toilet or 10" paper towels.
1—64" Creping Machine. Creping roll 12" in diameter with doctor blade. Two dryers 36"x64" and rewind.
6—Potdevin Bag Machines, making flat and square bags from ¼ to 25 lbs.
1—65" wide single face corrugating machine. Complete, good condition.
1—92" Dillon Duplex Rotary Sheet Cutter Equipped with 25 roll triple deck back stands and Brennan Folder.
1—Noble & Wood 100 lb. Experimental Beater.
4—Complete spiral tube winders with automatic cut-offs, also recutter. 2 Langston and 2 Knowlton manufacture.
1—High Speed, 3000 per hour production, garment bag making machine with 2 color printing attachment and AC motor equipment. Range smallest bag 17¾" wide x 30" long; largest bag 23¾" x 65" long.

GIBBS-BROWER COMPANY, INC.
31 East 40th St., New York 16, N. Y.
TF

FOR SALE

MACHINERY FOR SALE

Complete sold fibre paster up to 4 plys 62" wide with or without paper lining stations; Miehle 46" printers and die cutters; Seybold 28"x38" heated embosser; International window cello. Gluer model CC; 36"x48" rotary printers; Waldron 64" rewinder; 63" and 76" Langston cut-off knives; 48" Meisel spot sheeter with Erie layboy; 64" Hamblet sheeter; 62" Beloit board sheeter; 72" and 96" hand board cutters; Sheridan 44"x64" and 80"x70" 4-post die cutters; Hayssen heat seal wrappers; S.A.M. folding box gluer; 45" and 120" Rotary Board Slitters. Also coaters, waxers, embossers, paper cutters, printers, gummers, gluers, creasers, scorers, trimmers, slitters and rewinders, slotters, die cutters, and stitchers. Write for bulletins listing over 70 paper converting and paper box machines now available.

SOUTH WABASH ENGINEERING CO.
2929 S. Wabash Ave., Chicago 16, Ill.
S-5

FOR SALE

1—Nordberg Uniflow 150 H.P. high efficiency engine, 1938, No. 31420, direct connected to:
Crocker-Wheeler D.C. Generator, type CCD, size 139-D, 225 R.P.M., 250 volts, 500 amps, No. 747545, 125 K.W., continuous at 40°C.

1—Filer-Stowell Corliss Engine, 150 H.P., 1913, overhauled 1942, direct connected to:
Crocker-Wheeler D.C. Generator, type CCD, size 209-D, 125 R.P.M., 250 volts, 500 amps, No. 141360, 125 K.W.

1—Waukesha engine run on city gas. Can be run on gasoline. Model VIII—4x5, No. 107843, governor speed 1200 R.P.M., April 1927. Direct connected to:
Kohler Co. D.C. Generator, 10 K.W., 1200 R.P.M., 230 volts, 46 amps.

Address Box 46-586 care Paper Trade Journal. A-22

PAPER MILL EQUIPMENT
For Sale

110" Hamblet heavy duty mill type Sheeter.
80" Finley Sheeter.
36" Langston Slitter.
44" Chandler & Price Automatic Cutter.
54"Oswego hand clamp Power Cutter.
2—14 x 22 John Thomsons.
36" Waldron Reel.
American heavy duty Cross-Cut Saw.
NEW BALING PRESSES, hand & power.

THOMAS W. HALL COMPANY, Inc.
120 West 42nd St., New York 18

FOR SALE

BREAKER BEATER

1—Dilts Bandless Roll 62" diameter x 54" face—70 tons daily capacity.
Equipped with Shartle Bros. Ragger.

1—Appleton Breaker Beater—New Perforated Back Fall — Beater roll 48" face x 54" diameter. (Newly Filled)—No tub.

J. J. ROSS COMPANY
250 Frelinghuysen Ave., Newark 5, N. J.
Tel. Bigelow 3-3720 A-22

FOR SALE—1 Hamilton-Corliss Variable Speed Twin Engine, size of cylinders 12" x 24". Also Triple-Deck Frames for ninety 36" dryers, any width. The Chesapeake Paperboard Co., Baltimore 30, Md. TF

FOR SALE

FOR SALE—18 x 20 Sheridan 4—Rod Embosser. Address Box 46-565 care Paper Trade Journal. A-22

FOR SALE—One 38" two color Rotogravure Press. Sheet feed and pile delivery. Practically new. Address Box 46-541 care Paper Trade Journal. S-5

FOR SALE—8 Dryers 2 Deck System, 28" diameter, 50" face. Complete with Gears, Bearings and Frames. Also, 8 Dryers, 42 to 40" face—3 copper covered, 27" diameter, arranged straight line. Compete with Gears and Frames. Price $300.00 each. Now in operation. Address Box 46-568 care Paper Trade Journal. S-22

FOR SALE—64" Pusey-Jones Fourdrinier paper machine. Trims 57". Includes 22 Dryers 36" x 65". Bevel gear idler drive. Address Box 46-566 care Paper Trade Journal. A-22

FOR SALE—Moore & White Style K.T. Duplex Cutter with one Revolving Duplex Slitter having 94" length of knives and three each top and bottom Slitters on each of two slitter shafts and with a two reel unwinding backstand. Ready for immediate shipment. Theo. Adams, 111 West Washington St., Chicago, 2, Ill. A-29

FOR SALE—One Lane and Bodley 150 HP Engine and 100 KW Generator; One Chuse (variable speed) 165 HP Engine and 100 KW Generator. Both generating sets belt driven and 220 volt. Loroco Industries Inc., Lancaster, Ohio. A-29

FOR SALE—Spiral Tube Winder with automatic cut off. Make tubes from ¼ to 2"—one glue pot. Located in New York City. Address Box 46-571 care Paper Trade Journal. A-22

FOR SALE—Smith and Winchester ⅛ bbl. Bottomer and Medium Tuber Paper Bag Sack Machine for single or duplex satchel bottom bags, run singly or as one machine producing finished sack. Address Box 46-585 care Paper Trade Journal. A-29

FOR SALE—38" Oswego Automatic Clamp Cutter, fully rebuilt and guaranteed. Address Box 46-589 care Paper Trade Journal. A-22

WANTED

WANTED BOARD MACHINES

From 60 to 80" wide to produce paper boards, such as Chip, News, Kraft, etc. from paper waste or pulp in .016 caliper and up. Will consider moving plant or operating where ours is. Will buy outright or trade with our paper box machinery for corrugated, solid fibre, setup and folding boxes. Address Box 46-497, c/o Paper Trade Journal. A-29

WANTED

Waldron 30"

8 Color

Printing Press

Address Box 46-577 care Paper Trade Journal. A-22

WANTED

WANTED

Slitter—36" to 60"

Sheeter—not wider than 84". Perhaps two—a small and large.

For paper merchant's varied converting problems. Must be complete and ready for immediate operation. Box 46-580 c/o Paper Trade Journal. A-22

WANT TO BUY

Complete Plant Machinery to Make Card Board—10 to 20 Tons Per Day.

DESIDERIO GARZA
Reforma 12-208
Mexico City
A-22

WANTED—Paper Board Machine capable of producing 35 to 100 tons folding box board daily. Replies held in strictest confidence. Address Box 46-525 care Paper Trade Journal. A-29

WANTED — W & P Shredders, Evaporators, Generators and Boilers, Slitters, Cutters, Hydraulic Presses, Sheridan Presses, Dryers. Address Box 46-32 care Paper Trade Journal. TF

WANTED—Brightwood Box Machine. Address Box 46-33 care Paper Trade Journal. TF

WANTED—Straight pass enclosed drier to handle paper coating process. Also paper coating equipment. The Process Manufacturing Company, 1313 West Randolph Street, Chicago, 7, Illinois. TF

WANTED—Paper Board Mill in running condition to produce folding box board, bleach manila and patent coated. Replies held confidential. Address Box 46-572 care Paper Trade Journal. A-22

WANTED—Yankee Dryers, preferably 100" up. Address Box 46-573 care Paper Trade Journal. A-29

WANTED—Paper Saturator (water solution) 45" or less; also slitter and rewinder, same size. Will consider narrower equipment, also separate winder. Do not need drying equipment. Address Box 46-574 care Paper Trade Journal. A-22

WANTED—Newsprint or equivalent California sheeted preferred, 42 x 46, but can sheet rolls. Can use hundred fifty tons yearly. What have you? Address Box 46-583 care Paper Trade Journal. A-29

WANTED—One or two Dryers 36" diameter —60" to 64" face, 88" to 92" over-all dimensions. York Paper Manufacturing Co., P. O. Box 189, York, Pa. S-5

WANTED—Three or four color rotary press for printing paper bags; and one half barrel bottomer. Must be in good condition. Give full details. Address Box 46-587 care Paper Trade Journal. TF

WANTED — DISCARDED PAPER MILL FELTS. HIGHEST PRICES paid for all kinds of discarded paper mill felts. LARGE or SMALL QUANTITIES accepted. Prices quoted immediately on receipt of samples. ADDRESS: GLASER AND YOFFE, INC., 80 NORTH MAIN ST., NATICK, MASS. TF

WANTED WEAVING ROOM SUPERINTENDENT—to directly supervise all of the work of weaving and finishing special fabrics made of paper yarn, and to have charge of pattern design and manufacturing processes for a well-established business, located in an exceptional city of a north central state. Applicant must have a combination of a technical and practical experience, plus the ability to handle people, and a friendly but strong personality that will assure his success and worthiness of this excellent opporunity. State training, experience, references and salary expected. Address Box 46-594 care Paper Trade Journal. S-12

WANTED—Four room apartment—Cleveland or vicinity. Address Box 46-298 care Paper Trade Journal. TF

WANTED—12 paper mill dryers 80 to 85" face 36" diameter rolls. Ohio Paper Co., Miamisburg, Ohio. S-5

WANTED — Embossing Press, 10 x 15 or larger, with gold leaf attachment. Address Box 46-593 care Paper Trade Journal. A-29

BUSINESS OPPORTUNITIES

REPRESENTATIVE of fine paper mill wishes to buy interest in converting plant specilizing in printed wrapping and associated items. Capable of handling sales end of business. Address Box 46-576 care Paper Trade Journal. A-22

FORMER Paper Mill Sales Executive would like purchase interest in small paper converting plant preferably in New England or New York. Best references, etc. Address Box 46-532 care Paper Trade Journal. A-22

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of

PAPER TRADE JOURNAL

will be

OCTOBER 10, 1946

Your Last Chance
to get clean Pulp and Paper
is in your
SCREEN PLATES
We can increase your QUALITY and PRODUCTION.
Write us on any Screen Plate problem

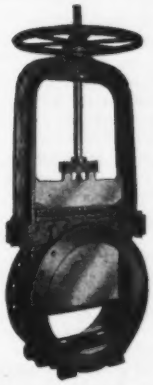
Fitchburg Screen Plate Co., Inc.
301 South Street, Fitchburg, Massachusetts

Appleton Wires are Good wires
APPLETON WIRE WORKS, INC. APPLETON, WIS.

THE MAYER MACHINE COMPANY, INC.
Manufacturers of
Paper Coating Machines
1155 Scottsville Road, Rochester 11, N. Y.
Waxing & Oiling, Carbon, Laboratory, Flat Ream Converting and Measuring and Roadmarking.

MISCO "C"
THE CORROSION RESISTANT ALLOY
CAST • ROLLED • FABRICATED
for all equipment exposed to corrosion by sulphite acids
MICHIGAN STEEL CASTING CO., DETROIT 7, MICH.

INDUSTRIAL TYCOL OILS-GREASES
A COMPLETE LINE
OF TYCOL LUBRICANTS SCIENTIFICALLY ENGINEERED FOR EVERY INDUSTRIAL USE
Tide Water Associated Oil Co.
Eastern Division
17 Battery Place, New York, N.Y.



RECORD PAPER & PULP STOCK VALVES "BONNETLESS SELF CLEARING" - - - "RESIDUE POCKETLESS TYPE"

METALS — I.B.B.M., all iron, bronze or stainless steels, body parts plain or rubber lined.

The photo of 24" Fig. 241 I. B. B. M. valve while illustrating the gate bottom wedge system for forced gate seating and "GUILLOTINE" edge for shearing fibre at seat also shows the packing box and yoke as separate units. Both adjustable.

- The "FAST THREADED" screw stem and ball bearing speeds valve operation.
- The packing box is extra deep, is adjustable and provided with specialized lubricated packings and special type gland and compression bolts.
- The yoke mountings are such that yokes for various methods of gate operation are interchangeable.
- Replaceable gate edge shoes are used in valves 10" and larger. These shoes are of special value when valves are installed stem and pipe horizontal.

"RECORD PRODUCTS EXTENSIVELY USED IN DEFENSE PROJECTS."

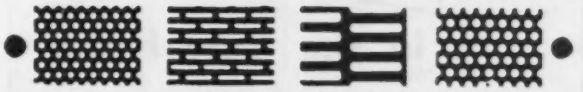
RECORD FOUNDRY & MACHINE COMPANY
LIVERMORE FALLS, MAINE, U. S. A.

The Trade-Mark of
RELIABLE FELTS

TRADE MARK

The Waterbury Felt Co.
SKANEATELES FALLS, N. Y.

SCREENS of Perforated Metal



The Harrington & King Perforating Co.

PENNOTEX OIL CORPORATION
29 Broadway
New York, N. Y.

AMORPHOUS WAXES
Melting Points 120° F. to 205° F.

For the Manufacture of
LAMINATING PAPER . . GLASSINES . . WATERPROOFING . . GREASE PROOFING . . EXTENDERS FOR PARAFFIN, FOOD CONTAINERS, CONTAINER LININGS, ADHESIVENESS AND PROTECTIVE COATING.

AMYLIQ

the modern means for preparing coatings and tub-sizings from starch.

WALLERSTEIN COMPANY, INC.
180 Madison Avenue New York 16

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UNIFORM SUPERIOR DEPENDABLE

English China Clays Sales Corporation
551 Fifth Avenue, New York City

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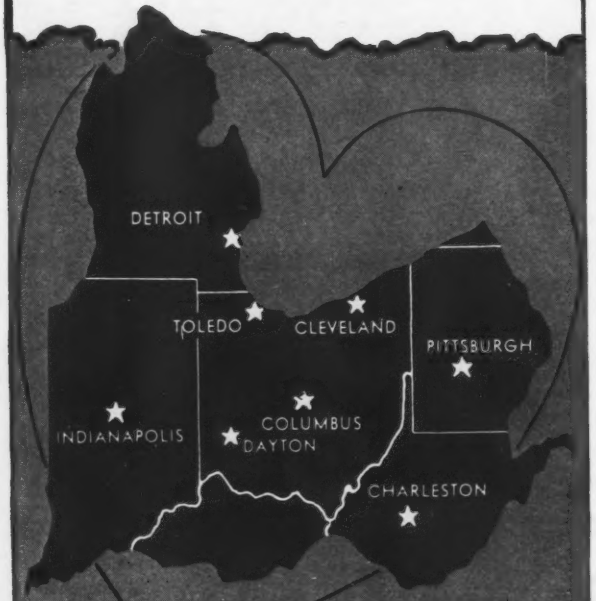

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WHERE TO BUY

ABRASIVES
Monsanto Chemical Co.
Norton Co.
Raybestos-Manhattan Inc. Manhattan Rubber Division

ADHESIVES
American Anode Incorporated
American Resinous Chemicals Corp.
Arabol Mfg. Co.
Flintkote Company
Monsanto Chemical Co.
National Adhesives Division of National Starch Products, Inc.
Philadelphia Quartz Co.
Stein, Hall & Co., Inc.
United States Rubber Co.

AGITATORS
Appleton Machine Co.
Biggs Boiler Works Co.
Dilts Machine Works, Inc.
Dorr Company
Downingtown Mfg. Co.
Hardinge Co., Inc.
Improved Paper Machy. Corp.
E. D. Jones & Sons Co.
D. J. Murray Mfg. Co.
Montague Machine Co.
Moore & White Co.
Noble & Wood Machine Co.
The Sandy Hill Iron & Brass Wks.
Shartle Brothers Machine Co.
Valley Iron Works Co.

AIR CONDITIONING
Spray Engrg. Company
Steamaire Company

ATOMIZERS
Steamaire Company

BAG MACHINES
Thomas W. Hall Co., Inc.
Potdevin Machine Co.
Shartle Brothers Machine Co.
Smith & Winchester Mfg. Co.
Weber, Herman G.

BALING MACHINES
Thomas W. Hall Co.

BARKERS AND CHIPPERS
Allis-Chalmers Mfg. Co.
Appleton Machine Co.
Carthage Machine Co.
Fibre Making Processes, Inc.
D. J. Murray Mfg. Co.
Valley Iron Works Co.

BARS
Dilts Machine Works, Inc.
E. D. Jones & Sons Co.
The Moore & White Co.
Noble & Wood Machine Co.
Shartle Brothers Machine Co.
Valley Iron Works Co.

BEARINGS
Black-Clawson Company
Jones, E. D., & Sons Co.
Magnus Metal Corp.
Montague Machine Works
Raybestos-Manhattan Inc. Manhattan Rubber Division
Rollway Bearing Co.
Shartle Brothers Machine Co.
SKF Industries, Inc.
Timken Roller Bearing Co.
Valley Iron Works Co.
T. B. Woods' Sons Company

BEATERS & JORDANS
The Appleton Machine Co.
Black-Clawson Company
Dilts Machine Works, Inc.
Downingtown Mfg. Co.
Hermann Mfg. Co.
E. D. Jones & Sons Co.
Noble & Wood Machine Co.
J. J. Ross Company
Ross Paper Machy. Co.
Sandy Hill Iron & Brass Works
Shartle Brothers Machine Co.
Smith & Winchester Mfg. Co.
Valley Iron Works

BED PLATES
Bahr Brothers Mfg. Co.
Dilts Machine Works, Inc.
Downingtown Mfg. Co.
Farrel-Birmingham Co., Inc.
E. D. Jones & Sons Co.
Noble & Wood Machine Co.
Shartle Brothers Machine Co.
Valley Iron Works Co.

BELTING
Alexander Brothers
Allis-Chalmers Mfg. Co.
The Cincinnati Rubber Mfg. Co.
Raybestos-Manhattan Inc. Manhattan Rubber Division
J. E. Rhoads & Sons
United States Rubber Co.
T. B. Wood's Sons Company
Worthington Pump & Machy. Corp.

BLEACHING BOILERS, ROTARY
The Biggs Boiler Wks. Co.

BLEACHING APPARATUS
The Biggs Boiler Works Co.
Improved Paper Machy. Corp.
E. D. Jones & Sons Co.
Perkins & Sons, Inc., B. F.
Moore & White Co.
Niagara Alkali Co.
Noble & Wood Machine Co.
Pennsylvania Salt Co.
The Sandy Hill Iron & Brass Wks.
Shartle Brothers Machine Co.

BLOW PIPES & PITS
Carthage Machine Co.
Montague Machine Co.
Moore & White Co.
Murray Mfg. Co., D. J.
Walworth Company

BOILERS
Babcock & Wilcox Co.
Foster Wheeler Corp.

BOILERS (Electric)
Steamaire Company

BOTTOMS
Harrington & King Perforating Co.
Kalamazoo Tank & Silo Co.
Valley Iron Works Co.

CALENDERS
Black-Clawson Company
Downingtown Mfg. Co.
Farrel-Birmingham Co., Inc.
Lobdell Car Wheel Co.
Moore & White Co.
Perkins & Son, Inc., B. F.
J. J. Ross Company
Ross Paper Machy. Co.
The Sandy Hill Iron & Brass Wks.
Shartle Brothers Machine Co.
Smith & Winchester Mfg. Co.
Valley Iron Works
Waldron Corp., John

CASEIN
The Borden Company
Casein Company of America

CASTINGS
Appleton Machine Co.
Black-Clawson Company
Carthage Machine Co.
Dilts Machine Works
Downingtown Mfg. Co.
Farrel-Birmingham Co.
Grinnell Company
Hamblet Machine Co.
Hardinge Co., Inc.
E. D. Jones & Sons Co.
Lobdell Car Wheel Co.
Magnus Metal Corp.
Montague Machine Co.
Noble & Wood Machine Co.
The Sandy Hill Iron & Brass Wks.
Shartle Brothers Machine Co.
Smith & Winchester Mfg. Co.
Union Machine Company
Union Screen Plate Co.
Valley Iron Works Co.

WHERE TO BUY

Walworth Company

CENTRIFUGAL MACHINERY
Bird Machine Co.
De Laval Steam Turbine Co.
Nichols Engrg. & Research Corp.
Ross, J. O., Eng. Co.
Shartle Brothers Machine Co.

CHEMICALS
American Anode, Incorporated
Amer. Cyanamid & Chem. Corp.
Amer. Resinous Chemicals Corp.
Ansul Chemical Co.
Calco Chemical Co.
The Cowles Detergent Co.
Diamond Alkali Co.
Dispersion Process, Inc.
Dow Chemical Company
E. I. du Pont de Nemours & Co., Inc.
Falls Chemical Products Co.
General Dyestuff Corp.
Geigy Co., Inc.
Gottesman & Co.
Hooker Electrochemical Company
Mallinckrodt Chemical Wks.
The Mathieson Alkali Works, Inc.
Monsanto Chemical Company
National Oil Products Co.
Naugatuck Chemical Div. of U. S. Rubber Co.
Niagara Alkali Company
Paper Makers Chemical Department, Hercules Powder Co.
Pennsylvania Salt Mfg. Co.
Philadelphia Quartz Co.
Pioneer Salt Company
Pittsburgh Plate Glass Co., Columbia Chemical Division
Solvay Sales Corp.
United States Rubber Co.
Witco Chemical Co.
Wyandotte Chemicals Corp.

CLEANING MATERIALS
Amer. Cyanamid & Chem. Corp.
Bird Machine Co.
The Cowles Detergent Co.
E. I. du Pont de Nemours & Co., Inc.
Paper Makers Chemical Department, Hercules Powder Co.
Magnus Chemical Co.
Monsanto Chemical Co.
Nichols Engrg. & Research Corp.
Oakite Products, Inc.
Pennsylvania Salt Mfg. Co.
Philadelphia Quartz Co.
Pittsburgh Plate Glass Co., Columbia Chemical Division
Solvay Sales Corp.
Wyandotte Chemicals Corp., J. B. Ford Division

CLUTCHES
Appleton Machine Co.
Black-Clawson Company
Hudson Sharp Machine Company
Farrel-Birmingham Co.
Fawick Airflex Co., Inc.
Hardinge Co., Inc.
Rodney Hunt Machine Co.
Moore & White Co.
D. J. Murray Mfg. Co.
The Sandy Hill Iron & Brass Wks.
Stearns Magnetic Mfg. Co.
T. B. Wood's Sons Company

COATING MACHINERY
Hudson Sharp Machine Company
Mayer Machine Co.
Moore & White Co.
Potdevin Machine Co.
Rotogravure Engrg. Co.
Shartle Brothers Machine Co.
South Wabash Engrg. Co.
Waldron Corporation, John
Weber, Herman G.

COCKS, LUBRICATED PLUGS
American Car & Foundry Co.

COMPRESSORS
Allis-Chalmers Mfg. Co.
De Laval Steam Turbine Co.
Ingersoll-Rand Co.
Nash Engineering Co.
Worthington Pump & Machy. Corp.

CONDENSERS
Foster Wheeler Corp.

CONSULTING ENGINEERS
Frederic C. Clark
Ferguson, Hardy S.
Hardy, George F.
Alvin H. Johnson & Co., Inc.
The Kohler System Company
Main, Inc., Chas. T.
The McPherson Company
Roderick O'Donaghue
The Rust Engrg. Co.
J. E. Sirrine & Co.
South Wabash Engrg. Co.
Stone & Webster Engrg. Corp.

CONTROLLERS
Black-Clawson Co.
Cochrane Corp.

CONTROLS
The Bristol Company
Cochrane Corp.
Stickle Steam Specialties Co.

CONVEYORS
Black-Clawson Company
Murray, D. J., Mfg. Co.
Ross Engineering Corp., J. O.

COOLING SYSTEMS
Foster Wheeler Corp.
Steamaire Company

CORES
Elixman Paper Co.
Rodney Hunt Machine Co.
Montague Machine Co.
Smith & Winchester Mfg. Co.
Sonoco Products Co.
Walker-Goulard-Plehn Co.

COUPLINGS
Black-Clawson Company
De Laval Steam Turbine Co.
Farrel-Birmingham Co., Inc.
Hardinge Co., Inc.
E. D. Jones & Sons Co.
Lovejoy Flexible Coupling Co.
Moore & White Co.
Noble & Wood Machine Co.
The Sandy Hill Iron & Brass Wks.
Shartle Brothers Machine Co.
Valley Iron Works
Waldron Corp., John
Westinghouse Electric Corporation
T. B. Wood's Sons Company

CRANES
Northwest Engrg. Co.
Reading Chain & Block Company

CRUSHERS
Fibre Making Processes, Inc.

CUTTERS
Dilts Machine Works
Thomas W. Hall Co.
Noble & Wood Machine Co.
Perkins & Son, Inc., B. F.
The Smith & Winchester Mfg. Co.
South Wabash Engrg. Co.
Taylor Stiles & Co.

DAMPENERS
Perkins & Son, Inc., B. F.
Steamaire Company
Valley Iron Works Co.

DE-INKING
Dilts Machine Works
Hardinge Co., Inc.
Kinsley Chemical Co.
Shartle Bros. Mach. Co.

DIGESTERS
Biggs Boiler Works Co.
Foster Wheeler Corp.
Pusey & Jones Corp.

DOCTORS
Bird Machine Company

The two belts shown above were installed on the main engine drives of 122" paper machines in 1932 and both are giving satisfactory service today.

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LEATHER BELTING

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Reliable Service at Lower Cost

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On a horizontal cone drive Tannate belts cut belt costs by giving 7½ years day and night service where rubber belts previously used had lasted only about six months. During this period the mill benefited by a saving of over $4,000 in belt costs and elimination of shutdowns —on an investment of only about $350.00.

May we help you to find out how Tannate belts will help you, too?

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5. LOW COST

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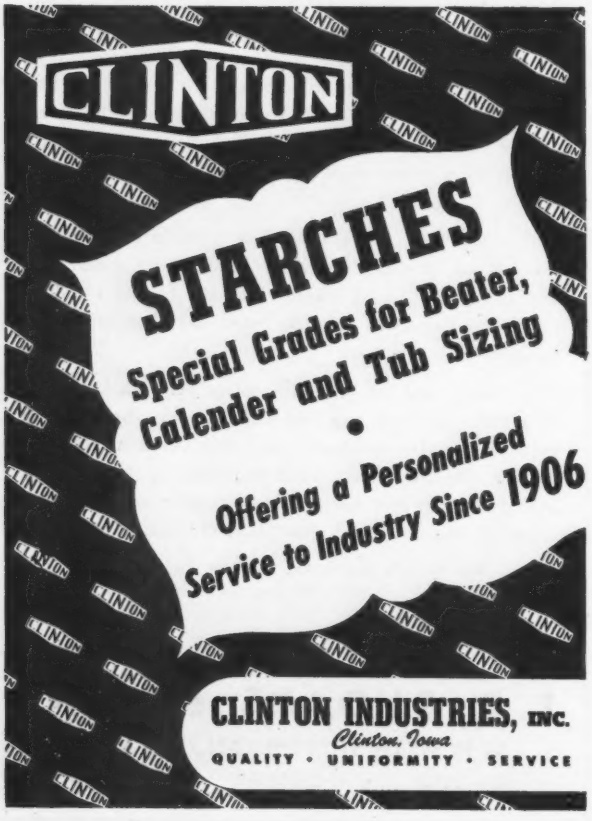
FITCHBURG, MASS.
(Associated with Union Screen Plate Company)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WHERE TO BUY

Black-Clawson Company
Downingtown Mfg. Co.
Lobdell Co.
Lodding Engineering Corp.
Montague Machine Co.
The Sandy Hill Iron & Brass Wks.
Shartle Brothers Machine Co.

DOCTOR BLADES
Black-Clawson Company
Lodding Engrg. Corp.
Montague Machine Co.
Raybestos-Manhattan Inc.
Manhattan Rubber Division
Rotogravure Engrg. Co.
The Sandy Hill Iron & Brass Wks.
Shartle Brothers
United States Rubber Co.
Westinghouse Electric Corporation

DRIERS
Black-Clawson Company
Murray Mfg. Co., D. J.
J. J. Ross Company
Ross, I. O., Engineering Corp.
Ross Paper Machy. Co.
Rotogravure Engrg. Co.
The Sandy Hill Iron & Brass Wks.
Shartle Brothers Machine Co.
Valley Iron Works Co.

DRIVES
Allis-Chalmers Mfg. Co.
Appleton Machine Co.
Bird Machine Co.
Black-Clawson Company
Davis, Frank H., Co.
De Laval Steam Turbine Co.
Dilts Machine Works
Downingtown Mfg. Co.
Farrel-Birmingham Co.
General Electric Company
Rodney Hunt Machine Co.
Montague Machine Co.
Moore & White Co.
Murray, D. J., Mfg. Co.
Noble & Wood Machine Co.
Pusey & Jones Corp.
I. J. Ross Company
Ross Paper Machy. Co.
The Sandy Hill Iron & Brass Wks.
Shartle Brothers Machine Co.
T. B. Wood's Sons Co.
Valley Iron Works Co.
Westinghouse Electric Corporation

DRUMS
Fibre Making Processes, Inc.

DUSTERS
Appleton Machine Co.
Downingtown Mfg. Co.
Fibre Making Processes, Inc.
E. D. Jones & Son Co.
Moore & White Co.
Noble & Wood Machine Co.
Norwood Engrg. Co.
D. J. Murray Mfg. Co.

DYESTUFFS
Calco Chemical Co.
Ciba Company
E. I. du Pont de Nemours & Co., Inc.
Geigy Co., The
General Dyestuff Corp.
National Aniline Division, Allied Chemical & Dye Corp.
Paper Makers Chemical Department, Hercules Powder Co.
C. K. Williams & Co.
Witco Chemical Co.

EMBOSSING ROLLS
Northern Engraving & Mch. Co.
Roehlen Engraving Co.

EVAPORATORS
Black-Clawson Company
Foster Wheeler Corp.
Goslin-Birmingham Mfg. Co., Inc.
Murray, D. J., Mfg. Co.
Swenson Evaporator Co., Div. of Whiting Corp.

FANS
General Electric Co.
B. F. Perkins & Son, Inc.
Ross Engineering Co., J. O.

FEEDERS
Fibre Making Processes, Inc.
Hardinge Co., Inc.
Merrick Scale Mfg. Co.
Leeds & Northrup
Wallace & Tiernan

FELTS
Appleton Woolen Mills
Asten-Hill Mfg. Co.
Bloomfield Woolen Co.
Bulkley, Dunton Pulp Co., Inc.
Draper Bros. Corp.
Huyck & Son, F. C.
Lockport Felt Co.
Mt. Vernon-Woodbury Mills, Inc.
Morey Paper Mill Supply Co.
Orr Felt & Blanket Co.
Shuler & Benninghofen
Waterbury Felt Co.
Waterbury, H., & Sons Co.

FELT CONDITIONERS
Steamaire Company

FELT GUIDES
Moore & White Co.
The Sandy Hill Iron & Brass Wks.
Shartle Brothers Machine Co.
Waldron Corp., John

FILLERS
Aluminum Flake Co.
American Colloid Co.
Amer. Cyanamid & Chem. Corp.
Amer. Resinous Chemicals Corp.
Johns-Manville Sales Corp.
W. H. Loomis Talc Corp.
Vanderbilt Co., R. T.
Witco Chemical Co.

FILTERS
Cochrane Corp.
Hardinge Co., Inc.
Moore & White Co.
J. O. Ross Engrg. Corp.
Witco Chemical Co.
Worthington Pump & Machy. Corp.

FLOORING, GRATING & TREADS
Hendrick Mfg. Co.
Klemp Co., W. F.
Norton Co.
Raybestos-Manhattan Inc.
Manhattan Rubber Division
United States Rubber Co.

FORMING MACHINES
Downingtown Mfg. Co.
Noble & Wood Machine Co.
Oliver United Filters
The Sandy Hill Iron & Brass Wks.
Shartle Brothers Machine Co.
South Wabash Engrg. Co.

FRICTION MATERIALS
Johns-Manville Sales Corp.

FREENESS TESTERS
Testing Machines, Inc.

GEARS
Black-Clawson Company
De Laval Steam Turbine Co.
Downingtown Mfg. Co.
Farrel-Birmingham Co.
E. D. Jones & Sons Co.
Moore & White Co.
D. J. Murray Mfg. Co.
The Sandy Hill Iron & Brass Wks.
Shartle Brothers Machine Co.
Smith & Winchester Mfg. Co.
Valley Iron Works Co.
Waldron Corp., John

GRINDERS
Carthage Machine Co.
Farrel-Birmingham Co.
Lobdell Car Wheel Co.
Montague Machine Co.
Norton Company
Samuel C. Rogers and Company
The Sandy Hill Iron & Brass Wks.

GRINDING WHEELS
The Manhattan Rubber Mfg. Div. of Raybestos-Manhattan, Inc.
Norton Company
United States Rubber Co.

HEAT EXCHANGERS
Foster Wheeler Corp.

HEAT RECOVERY SYSTEMS
Foster Wheeler Corp.

HEATING, VENTILATING AND AIR CONDITIONING
The Appleton Machine Co.
Armstrong Machine Works
Cochrane Corp.
E. D. Jones & Sons Co.
General Electric Co.
Grinnell Company
Leeds & Northrup
D. J. Murray Mfg. Co.
Noble & Wood Machine Co.
Ross Engineering Corp., J. O.
Shartle Brothers Machine Co.
Stickle Steam Specialties Co.
Valley Iron Works Co.
Worthington Pump & Machy. Corp.

HOISTS
Appleton Machine Co.
Dilts Machine Works
Rodney Hunt Machine Co.
Ingersoll-Rand Co.
E. D. Jones & Sons Co.
Reading Chain & Block Corp.

HOSE (Air, Water, Suction, etc.)
The Cincinnati Rubber Mfg. Co.
Raybestos-Manhattan Inc.
Manhattan Rubber Division
United States Rubber Co.

WHERE TO BUY

HUMIDITY CONTROL
Spray Engrg. Company
Steamaire Company

HYDRAPULPERS
Ross Paper Machy. Co.

INSTRUMENTS, TESTING AND MEASURING
Bauer Brothers Co.
N. P. Bowsher
The Bristol Company
Cochrane Corp.
The Foxboro Company
General Electric Company
W. & L. B. Gurley
Leeds & Northrup Company
National Technical Laboratories
B. F. Perkins & Son
Taber Instrument Corp.
Taylor Instrument Cos.
Testing Machines, Inc.
Wallace & Tiernan Instrument Co.

INSULATION
Johns-Manville Sales Corp.

JOINTS
Perfecting Service Company

JORDAN FILLINGS
Appleton Machine Co.
Bahr Brothers Mfg. Co.
E. D. Jones & Sons Co.
Noble & Wood Machine Co.
Shartle Brothers Machine Co.
Smith & Winchester Mfg. Co.
Valley Iron Works Co.

KNIVES
Black-Clawson Company
Dilts Machine Works, Inc.
Hamblet Machine Co.
E. D. Jones & Sons Co.
Valley Iron Works Co.

KNOTTERS
Fibre Making Processes, Inc.

LABORATORY EQUIPMENT
Appleton Machine Co.
Bauer Brothers Co.
The Biggs Boiler Works Co.
W. H. & L. D. Betz
Dilts Machine Works
E. D. Jones & Sons Co.
Leeds & Northrup Company
National Technical Laboratories
Noble & Wood Machine Co.
Taber Instrument Co.
Taylor Instrument Companies
Testing Machines, Inc.
Valley Iron Works

LAY BOYS
Hamblet Machine Co.
Moore & White Co.
Shartle Brothers

LINTER COTTON
The Railway Supply & Mfg. Co.

LUBRICANTS
Gulf Oil Corporation
Gulf Refining Co.
Sinclair Refining Co.
Socony-Vacuum Oil Co., Inc.
Sun Oil Company
The Texas Company
Tide Water Associated Oil Co.

LUBRICATORS
Hills-McCanna Co.

MATERIAL HANDLING
Automatic Transportation Co.
Northwest Engrg. Co.
Reading Chain & Block Company

MICROMETERS & CALIPERS
Farrel-Birmingham Co.
Montague Machine Co.
Lobdell Car Wheel Co.
Testing Machines, Inc.
Walker-Goulard-Plehn Co.

MOISTENING EQUIPMENT
The Spray Engineering Co.
Steamaire Company

MOISTURE CONTENT CONTROL
Spray Engrg. Company
Steamaire Company

MOTORS AND GENERATORS
Allis-Chalmers Mfg. Co.
Continental Electric Co.
De Laval Steam Turbine Co.
General Electric Co.
Ingersoll-Rand Co.
Reliance Electric & Engrg. Co.
Westinghouse Electric Corporation

NOZZLES
Spray Engrg. Company
Steamaire Company

PACKING BOXES
Johnson Corporation
Shartle Brothers Machine Co.

PACKING
Johns-Manville Sales Corp.
The Manhattan Rubber Mfg. Div. of Raybestos-Manhattan, Inc.
United States Rubber Co.

PAPER MACHINES
Bagley & Sewall Co.
Black-Clawson Company
Downingtown Mfg. Co.
Thomas W. Hall Co.
Moore & White Co.
Pusey & Jones
J. J. Ross Company
Ross Paper Machy. Co.
The Sandy Hill Iron & Brass Wks.
Shartle Brothers Machine Co.
Smith & Winchester Mfg. Co.

PAPER MACHINE SLICES
Black-Clawson Company
E. D. Jones & Sons Co.
Montague Machine Co.
The Sandy Hill Iron & Brass Wks.
Valley Iron Works Co.

PAPER MILL BUILDERS
Merritt-Chapman & Scott Corp.
The Rust Engrg. Co.

PAPER TUBE MACHINERY
Theo. Adams
Dietz Machine Works
Thomas W. Hall Co.
Hudson Sharp Machine Company
Langston Co., Samuel M.
South Wabash Engrg. Co.

PASTING MACHINES
Black-Clawson Company
Davis, Frank H., Co.
Murray, D. J., Mfg. Co.
Moore & White Co.
Potdevin Machine Co.
Shartle Brothers Machine Co.
South Wabash Engrg. Co.
Waldron Corp., John

PENSTOCKS, WELDED STEEL
The Biggs Boiler Works Co.

PERFORATED METAL
Allis-Chalmers Mfg. Co.
Harrington & King Perforating Co.
Hendrick Mfg. Co.

PIPE
Black-Clawson Company
Crane Company
Deublin Company
Grinnell Company
Johns-Manville Sales Corp.
Shartle Brothers Machine Co.
Stowe-Woodward, Inc.
Taylor Forge & Pipe Works
Walworth Company

PLATERS
Perkins & Son, Inc., B. F.

PLATES
Black-Clawson Company
Hendrick Mfg. Co.
J. O. Ross Engrg. Corp.
Shartle Brothers Machine Co.
Timken Roller Bearing Co.

PLATE WORK (Steel & Alloy)
The Biggs Boiler Works Co.

PLUGS
Black-Clawson Company
E. D. Jones & Sons Co.
The Noble & Wood Machine Co.
Shartle Brothers Machine Co.

PRESSURE VESSELS, STEEL AND ALLOY
The Biggs Boiler Works Co.
Foster Wheeler Corp.

PRESSES
Black-Clawson Company
Dietz Machine Works
Farrel-Birmingham Co.
Fibre Making Processes, Inc.
Thomas W. Hall Co.
Hudson-Sharp Machine Co.
Paper Converting Machine Co., Inc.
Potdevin Machine Co.
Rotogravure Engineering Co.
Shartle Brothers
South Wabash Engrg. Co.
Valley Iron Works Co.
Waldron Corp., John
Weber, Herman G.

PULPERS
Bauer Brothers Co.

PULPS
Andersen Co., J.
Bulkley, Dunton Pulp Co., Inc.
Gottesman & Co., Inc.
Elof Hansson, Inc.
Lyddon & Co. (America) Inc.
Parsons & Whittemore, Inc.
Perkins-Goodwin Co.
Price & Pierce, Ltd.
Pulp and Paper Trading Co.

PULPSTONES
Norton Company

PUMPS
Allis-Chalmers Mfg. Co.
Black-Clawson Company
Buffalo Pumps, Inc.

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BLEACHED SULPHITE AND SODA PULP
BLEACHED AND UNBLEACHED KRAFT PULP

MILLS:
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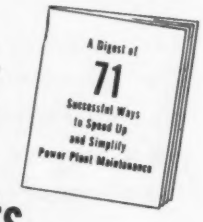
Luke, Maryland — Williamsburg, Pennsylvania
Covington, Virginia — Charleston, South Carolina

To Help You Cut POWER PLANT Maintenance Costs . . .



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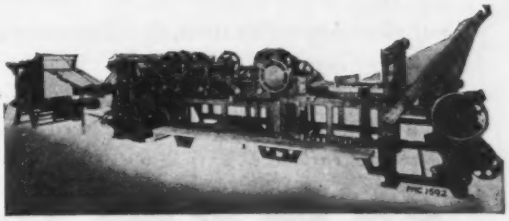

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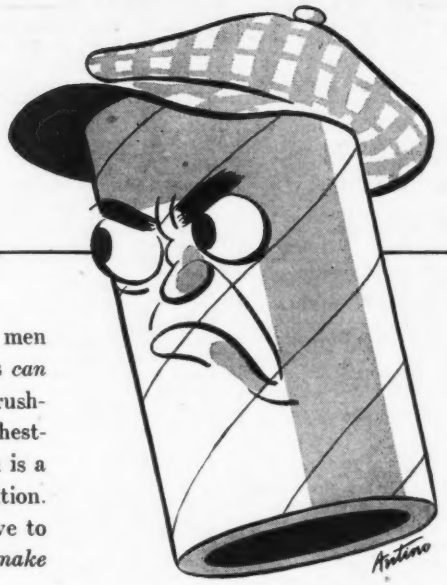

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ALPHABETICAL INDEX TO ADVERTISERS IN THIS ISSUE

A

Alexander Brothers 38
Allis-Chalmers Mfg. Co. 3
Ansul Chemical Co. 55
Appleton Wire Works, Inc. ... 64
Appleton Woolen Mills 57

B

Binney & Smith Co. 55
Black-Clawson Co. 59
Boston & Maine R. R. 35

C

Cameron Machine Co. 57
Central Ohio Paper Co. 66
Chemipulp Process, Inc. 57
Cheney Bigelow Wire Works.. 28
Classified Advertising 58
Clinton Industries, Inc. 68
Crane Company 73

D

Davis, Frank H., Co. 62
DeLaval Steam Turbine Co. .. 57
Diamond Alkali Co. 11
Dilts Machine Co. 59
Downingtown Mfg. Co. 2

E

English China Clays Sales Corp. 65

F

Fawick-Airflex Co. 23
Ferguson, Hardy S. 57
Fitchburg Screen Plate Co. ... 64
Flintkote Company 18

G

Geigy Company .....Front Cover
Gibbs-Brower Co., Inc. 62

H

Hall, Thomas W., Company .. 63
Hansson Inc., Elof 31
Hardy, George S. 57
Harrington & King Perf. Co. .. 65
Hercules Powder Co. .....16 & 17
Hubbs Houses 6
Hudson Sharp Mch. Co. 53
Huyck & Sons, F. C. Back Cover

I

Improved Paper Machy. Corp. 15

J

Jones & Sons Co., E. D. 33

K

Kinney Mfg. Company 5
Kinsley Chemical Company ... 57

L

LaBoiteaux Co., The 29
Langston Co., Samuel M. 13
Lyddon & Company 37

M

Mayer Machine Co. 64
Main, Inc., Chas. T. 57
Mead Corporation 72
Merritt-Chapman Scott Corp. .. 57
Michigan Steel Casting Co. 64
Moore & White Company 57

N

Nekoosa Fdy. & Mch. Co. 53
Niagara Alkali Co. 19

O

Oakite Products, Inc. 70
O'Donoghue, Roderick 57

P

Paper & Ind. Appliances 34
Parsons & Whittemore 37
Pennotex Oil Corp. 65
Perkins-Goodwin Co. 30
Pittsburgh Plate Glass Co. 7
Potdevin Machine Co. 71
Powell Company, Wm. 27
Price & Pierce, Ltd. 71
Process Engineers 57

R

Raymond Service, Chas. P. ... 58
Record Fdy. & Mch. Co. 65
Rhoads & Sons, J. E. 67
Ross, J. J., Company 68
Ross Paper Machinery Co. 61
Rotogravure Engrg. Co. 57

S

Seaboard Air Line Ry. 69
Shartle Bros. Machine Co. ... 59
Smith Co., S. Morgan 25
Smith & Winchester Mfg. Co.. 53
Stone & Webster Engrg. Corp. 4

T

Tidewater Assoc. Oil Co. 64

U

Union Machine Co. 68

V

Vanderbilt Co., R. T. 8

W

Wallerstein Co., Inc. 65
Waterbury Felt Company 65
West Va. Pulp & Paper Co. ... 70
Wyandotte Chemicals Corp. .. 14

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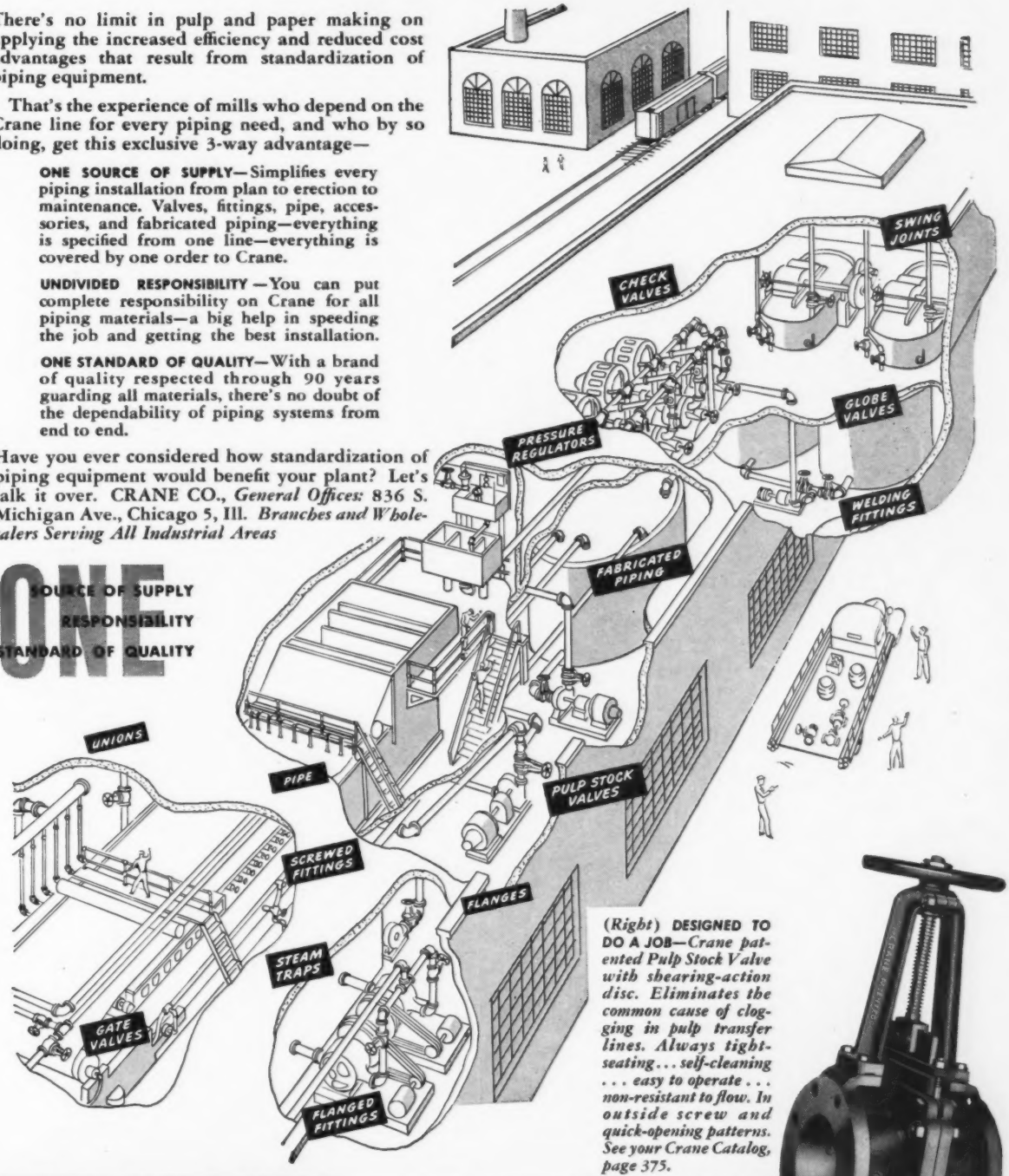

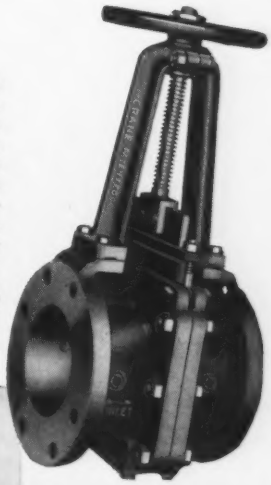

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